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THE ROYAL INSTITUTE of BRITISH ARCHITECTS.

EXAMINATIONS will be held on the following dates:—
The INTERMEDIATE on JUNE 2, 5, 6, 8, and 9, 1916.
Applications must be sent in on or before APRIL 15.
The FINAL and SPECIAL EXAMINATION on JUNE 22, 23, 24, 26, 27, 29, and 30.
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The Testimonies of Study, etc., with the necessary fees, must accompany all applications, all of which are to be addressed to the undersigned.
The above Examinations will not be held in NOVEMBER this year.

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The ANNUAL GENERAL MEETING will be held in the Rooms of the Royal Institute of British Architects on TUESDAY, APRIL 11, 1916.
The President, Mr. Ernest Newton, will take the Chair at FIVE o'clock.
The attendance of Contributors particularly requested to receive the Report, Balance-sheet, etc.

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THE BUILDER

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THE ARCHITECT IN LITERATURE.

THE word "architect" does not occur in English until 1563, in which year John Shute, the dates of whose birth and death are alike unknown, published his "First and Chief Groundes of Architecture, used in all the Auncient and Famous Monyments," in the introduction to which he describes himself as painter and architect, and mentions his studies under the best architects in Italy, whither he was sent by the Duke of Northumberland in 1550. The next reference to the word, according to the Oxford Dictionary, occurs in "Paradise Lost," over a century later, for the architect had not come to his own sufficiently to be realised as a person in any of those books of characters, such as Earle's and Overbury's, which were the delight of the educated in the reigns of the first Stuarts; the Good Architect therefore does not balance the Bad in literature, whatever he may have done in life. Inigo Jones, satirised on the stage as Vitruvius Hoop, is described as "eminent in architecture," and this is in itself proof that the word "architect" was no recognised part of the vocabulary of the day. In Milton even the word is probably one of his own learned coinings; it had taken no hold when introduced by Shute, and does not reappear after "Paradise Lost" until well on in the eighteenth century. Satan, in fact, is not only the earliest example of the word in literature, but of the profession. The fallen archangel, once "known In Heaven by many a towered structure high," recalls his powers in hell, and the growth of his new capital is described with a fierce power and bitter admiration singularly striking in the case of a blind poet. It is as if the memories of Milton's early travels—of castles set on lonely Italian hills, of the overwhelming mass of St. Peter's—were blended into one great and gorgeous vision. Nor would it be surprising, in the case of so stern an opponent of Rome, if Milton had in his mind's eye the actual image of the vast cathedral when he wrote:—

> A fabric huge . . .
> Built like a temple, where pilasters round
> Were set, and Doric pillars overlaid
> With golden architrave; nor did there want
> Cornice or frieze, with bossy sculptures graven.

The very doors "opening their brazen folds" suggest their Roman counterpart. Fancy might even take the lines further on as symbolical of the Christian Gothic theory as against the forms borrowed from the Pagan temple, and contrast the "towered structures high" which Satan had raised in Heaven with the columns and architraves of Pandemonium, which could not but be in a style the reverse of that celestial architecture:—

> Nor aught availed him now
> To have built in Heaven high towers; nor did he scape
> By all his engines, but was headlong sent
> With his industrious crew to build in Hell.

It is as if Milton's early love of cloisters pale and high embowèd roofs were taking its revenge on the unwilling recognition of the splendours of that great cathedral which to him was the embodiment of Satan's kingdom upon earth, and on the stately Neo-Classicism of a dynasty which he abhorred, the Banqueting House of Whitehall, that fragment of a mighty plan, and the Corinthian portico added to St. Paul's by the King, whose death-warrant Milton signed, in 1633.

Fantastic, then, as it may seem, we may regard Pandemonium as the first capital, Satan as the first architect, of modern fiction, and he has to wait long for a successor. The earliest novelists were interested in men and not their houses; one cannot imagine Tom Jones as interested in architectural improvements, or one of Smollett's heroes calling in professional advice, and even the first efforts of the romantic revival deal in buildings as they were, not as they were to be made. The Castle of Otranto is already built; so is that castellated erection in which much of the action of its little-known predecessor "Longsword Earl of Salisbury" takes place, while Mrs. Radcliffe's castles, including that which is chiefly known to modern readers by Miss Austen's allusions to Laurentina's skeleton, date back to a hoary antiquity. But the leaven was working; it is only a step from Gray's admiration of the ivy-mantled tower to his friend Mason's love of ruins for their own sake, and with Mason we at last come to another architect in literature. Mason's "English Garden" is not a work familiar in our mouths, but the activities of its hero Alcander, "an English country gentleman, as his name implies,"* are really noteworthy. On his "site" that worthy "first his taste employ'd," the "blank horizon" of the "sacred" site in question being only broken by a thin line of beech, whose "tameness" was thus done away with:—

> "Draw we round yon knowl,"
> Alcander cries, "in stately Norman mode,
> A wall embattled; and within its guard
> Let every structure needful for a farm
> Arise in castle-semblance; the huge barn
> Shall with a mock portcullis arm the gate,
> Where Ceres entering, o'er the flail-proof floor,
> In golden triumph rides; some tower rotund
> Shall to the pigeons and their callow young
> Safe roost afford; and every buttress broad,
> Whose proud projection seems a mass of stone,
> Gives space to stall the heifer and the steed.
> *So shall each part, though turn'd to rural use,*
> *Deceive the eye with those bold feudal forms*
> *That fancy loves to gaze on.*"

Filled with the idea of carrying out the beautiful scheme in the lines here italicised, Alcander proceeds to "build of old, disjointed moss-grown stone A time-struck abbey," whose prosaic purpose is to conceal the whereabouts of the dairy and the icehouse. The "fane conventual" accordingly arises, and Alcander proceeds to "lead his pensive maid" around its glories, and to propose the erection of a "proud rotunda" built of "forms pellucid," on "Ionic shafts"—*anglice*, a conservatory—which the maid, Alcander's "living goddess," viewed reluctantly after all, not, we regret to read, because of Alcander's bad taste, but because:—

> "My wish, thou know'st, was humble as my state,
> I only begg'd a little woodbine bower,
> Where I might sit and weep."

But we must leave these pseudo-pastoral love scenes for the creations of the Tilney family at Northanger Abbey, those admirable kitchen quarters, built by the general's father, which called forth Catherine's reluctant admiration, and that "tolerably large eating-room" which we are sure must have been a creation of General Tilney's own, with such modest pride does he admit it to be one of the necessaries of life.

"Northanger Abbey" was got ready for the press in 1803, though not published till 1817; thus it actually, though not apparently, preceded "Waverley," with its romantic joy in the picturesque domain of the Baron of Bradwardine, which would not, however, have called for mention here had not Waverley, who probably fulfilled Flora's prediction that he would "refit the library of Waverley Honour in the most exquisite Gothic taste, draw plans and landscapes, and write verses, and rear temples, and dig grottoes," rebuilt the whole after its destruction in 1745, as a surprise for his father-in-law the Baron, who promptly entails it on his second grandson, the first, who is to have Waverley Honour, being not yet even in sight.

* Leslie Stephen.

Scott, however, greatest of antiquaries and most loving of archæologists, hardly comes into our purview, since his characters live in or near ancestral homes and are not themselves, like their creator, the architects of their own dwellings. Perhaps the earliest professional architect in literature—for the elegant Alcander was only an amateur—was Mr. Pecksniff, who held that proud position, not by virtue of qualifications or of practice, for he "had never designed or built anything," but by virtue of his brazen (Dickensian prose for brass) plate and his reception of the pupils who spent from three to five years "in making elevations of Salisbury Cathedral from every possible point of sight (*sic*); and in constructing in the air a vast quantity of castles, Houses of Parliament, and other public buildings." In so far as beginning his adult life as a pupil of Pecksniff's constituted an architect, Martin Chuzzlewit was one, but we are not told that the varied fortunes of that young man included any efforts at putting his profession into practice. If Pecksniffs were common at the beginning of the nineteenth century, we feel that Adam Bede, that admirable master-builder, was justified in his contempt: "As for th' architects, they set up to be fine fellows, but the most of 'em don't know where to set a chimney so that it shan't be quarrelling with a door. My notion is, a practical builder, that's got a bit o' taste, makes the best architect for common things; and I've ten times the pleasure i' seeing after the work when I've made the plan myself."

The function of the practical architect on which Adam Bede insists is explained and broadened by two novelists of our generation, Mr. Howell's architect in "The Rise of Silas Lapham," who knows what a woman wants in a scullery better than she does herself, and Mr. Arnold Bennett's Card, who in the course of his meteoric career creates a fitting house for his grim old mother, having previously bought up through an agent the lease of her hovel and turned her out in the *rôle* of the rapacious landlord in order to ensure her living in a style befitting her position as his parent; and so admirable did the new house prove that its unwilling tenant was constrained to admit that, servantless as she insisted on remaining, she could clean everything up and be ready for callers by ten o'clock. We feel that there is a distinct opening for the Card in modern life.

But we must retrace our steps and leave the light comedy of Howells and Bennett for the more serious paths of fiction, in which the architect as a character is curiously infrequent. It was reserved for Mr. Hardy, wise by his own experience, to treat the architect as hero. No one can help liking Stephen Smith in "A Pair of Blue Eyes" any more than the ill-fated Elfrida who lacked the courage to be true to him, or the excellent George Somerset of the "Laodicean," who "sketched or measured many old country churches now pulled down or altered." If more of our architects had the true passion of Mr. Hardy and his heroes for the legacy of the past the architect in fact might play a larger part than he has in fiction, and the restoration age of the Victorian era might have been less unhappy than it was in the eyes of a generation that has grown as much beyond the ideals of a Scott or a Butterfield as it has beyond those of the forgotten Gothicisings of Alcander.

NOTES.

The Atelier and the A.A.

An exhibition of unusual interest was held at the First Atelier of Architecture on the last Wednesday in March. The occasion was the second joint exhibition and criticism arranged between the Atelier and the Architectural Association, the first having been held at the Association. The subject of the competitions was a National Library, and some extremely interesting and promising work was submitted. A "Mention" was awarded to Mr. Tomlins, of the Atelier, for a well-laid-out and characteristic design. This being the first visit of the Architectural Association, the visitors were briefly welcomed by Mr. A. R. Jemmett on behalf of the Atelier, and after the Patron, Mr. A. J. Davis, had given his criticism Mr. Stanley Hamp expressed the sympathetic attitude of the Council of the Architectural Association and their belief in the value of such joint competitions. The special interest of the evening was further enhanced by the fact that it was the last appearance of the Patron before leaving for active service in France. In making the announcement Mr. Davis expressed his very strong wish and hope that the Atelier would be carried on as usual in his absence. On behalf of the Beaux-Arts Committee Mr. Percy B. Tubbs expressed appreciation of Mr. Davis's services, and, in referring to the intention of the Committee to keep the Atelier running, pointed out the financial difficulty caused by the fact that all the eligible working members were absent at the war. Mr. Bucknell, representing the working members, voiced their thanks to Mr. Davis and their good wishes for his welfare while on active service. A memorable evening in the history of the Atelier was brought to a close with an enthusiastic send-off to the Patron, who was leaving for France next morning. We think that everyone who realises the necessity of progress in our methods of architectural education would be sorry if the Atelier was obliged to close for the remainder of the war. The reasons for making a special effort to keep the Architectural Association schools open apply with equal force to the Atelier, and we hope it will eventually receive assistance in like manner and from the same quarter.

A Change of *Rôles*.

We hail with delight the excellent series of short architectural essays which the *Times* is giving its readers under the heading of "History at Close Quarters." The last of these is a very readable article on the "Opening of the White Tower." These incursions into the field of architecture are, we hope, an indication of the growing interest taken in buildings—an interest which is very marked in the *Manchester Guardian*, where from time to time good architectural criticism is to be found. At present these journals usually lack illustration, but that is a want which may be made good later on. But there may be room for a *quid pro quo*, and possibly architectural publications may in the future give leaders dealing with the political situation. The reconstruction of our Party system after the war would be a good subject for such a leader, and there would be a suggestion of fitness in advice on State reconstruction being found in an architectural work. Why, after all, should we not shake Cabinets and support political parties? Possibly if we did so we might see the last of that Old Man of the Seas, Mr. Lloyd George's contribution to our Land Acts! How a Government can take praise to itself for shutting up museums and picture-galleries on the score of economy and persist in the administration of an Act which entails an annual loss and also chokes and stultifies legitimate trade and speculation is more than we can imagine.

Traffic.

Dr. Waldo, H.M. Coroner for the City and Southwark, calls attention in his annual return for 1915 to the fact that a large number of deaths from fires occurred during the year. He held inquests on sixty-three deaths from traffic fatalities, the highest number on record since the introduction of motors, and adds that the main cause of the increase is the absence of street lighting, owing to the conditions brought about by the war. The suggested remedies are (1) more street refuges, especially along wide streets where tramways run; (2) more police, especially at traffic-crossing points; and (3) more lifeguards or fenders in the shape of side-guards for hind wheels in the case of heavy motors. The first of these remedies involves the expenditure of money by local authorities which, though desirable, is probably not feasible at present; the second also represents additional expense; the third could be covered by additional regulation; but all the recommendations should be carried into effect when normal times return. Mr. Waldo also calls attention to the fact that a large hoard of Tudor ornaments and jewellery was unearthed in the City and has been secured by the Treasury under a secret arrangement with a person or persons. Fifty-two of these ornaments are now at the London Museum, while others had been seen on view at the British Museum. Dr. Waldo says he is unfortunately not able to hold an inquest on these treasures, since they have been removed out of his jurisdiction, but advises the Corporation to bring a civil action for their recovery in order that they may be deposited in the City of London Museum. According to the Coroner, the ornaments, under a Royal Charter (June 24, 15 Charles II. 1664), belong to the Lord Mayor, Commonalty, and Citizens of London, and could be recovered by legal action.

Fires.

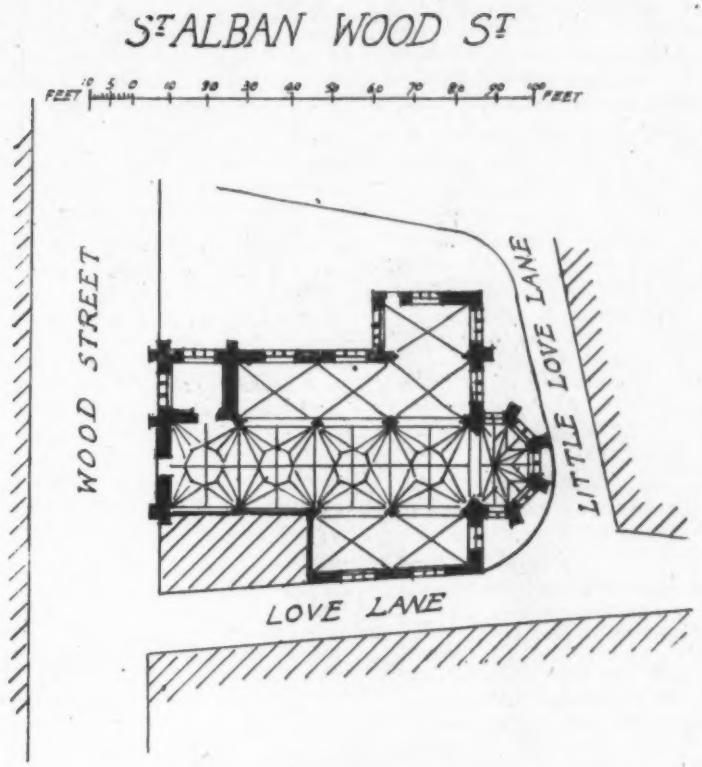
We are glad to see that Dr. Waldo says that out of 169 City fires which occurred in the year the cause is unknown in respect of seventeen only. One-third of the total can be traced to a light having been thrown down, and twenty-six to defective electrical arrangements. The Coroner suggests the extension of the system of the Special City Fire Inquests Acts, as was recommended by the Departmental Committee in 1909, since there is special need of full and careful investigation into the cause of fires at the present time. He points out that the fact that such inquests are held has a deterrent effect on incendiarism, as an inquest provides additional machinery for detecting and punishing the crime. Considering the proportion which fires caused by the careless throwing down of lights bears to the total, it seems time that such practices were penalised, since they are quite as detrimental to the public interests as the practice of spitting, which is now punishable if exercised in public places.

THE LONDON CHURCHES OF WREN AND LATER ARCHITECTS OF THE RENAISSANCE.

No. XXIV.—St. Alban, Wood-Street.

As St. Alban, Wood-street, is often included among lists of Wren's churches, it has a place in our series; but an examination will show that, while it is one of the churches which were rebuilt under Wren's direction, it is equally evident that either much of the older structure remained and gave its character to the new church or it must have been the work of a master mason unusually conversant with the details of the former structure. It cannot, like St. Michael, Cornhill, or St. Mary Aldermary, be described as being pseudo-Gothic, but is in plan and design an example of very late Perpendicular, of which the weakness and want of vigour paved a way for the coming change of type. It had been rebuilt under the direction of Inigo Jones only thirty years previous to the Fire, and the church we see to-day is undoubtedly the restored copy of what was probably one of the last works of the Gothic period.

It has unfortunately been much modernised and therefore rendered less interesting to the student of style, a polygonal chancel termination of modern date replacing a former square chancel with a large window; the walls have been stripped of their panelling, and the pulpit and only a few monuments mark the date of the building. The tower and west window



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[*Photo.: Geo. Trotman.*

Wren's Churches: St. Alban, Wood-Street.

are the most pleasing features of the church, which should be compared rather with St. Helen, Bishopsgate, and St. Katherine Cree than with Wren's work.

The original church was a very ancient one, tradition relating that King Offa had a palace in Wood-street of which the church was the chapel, and that he granted the parish to the Abbot of St. Albans. At a later date the advowson passed into the hands of the Provost and Fellows of Eton College, who have since continued its patrons. With the church is united the parish of St Olave, Silver-street, which was not rebuilt after the Fire.

No. XXV.—St. Andrew, Holborn.

The appearance of St. Andrew, Holborn, has been partially spoilt by the raising of the roadway when Holborn Viaduct was constructed. The first church on the site was in existence in the year 971, as it is mentioned in a charter of King Edgar defining the boundaries of the parish of Westminster. It was rebuilt in the fifteenth century, repaired in the reign of Charles I., and was finally rebuilt by Wren in 1686. The original tower was left, but was subsequently recased with Portland stone in 1704. Some of the original Gothic arches still remain. The church is one of the largest of the galleried churches designed by Wren, and one of the most commonplace and uninteresting. It has been extensively restored and modernised, and the original organ has been replaced. The tower is simple and pleasing in design, and in its form suggests a very usual Gothic type.

There are many interesting associations connected with the church, which is said to be the burial-place of John Webster, the dramatist. Sir Edward Coke, the famous lawyer, and John Hutchinson, of the Parliamentary Army, were married in it; while a memorial to the comedian, John Emery, who died in 1822, states, "Each part he shone in, but excelled in none So well as husband, father, son"; while Benjamin Disraeli's name appears among the entries of baptism. The advowson of the church is in the gift of the Dukes of Buccleuch.

It is disappointing that in so many of his larger churches Wren should have fallen back on somewhat commonplace solutions, but his powers of design were evidently at their best when he had to face exceptional difficulties caused by site or the circumstances attending unusual constructive problems.

INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS:

FACTORIES AND WORKSHOPS.

A MEETING of the Institution of Municipal and County Engineers was held in the Town Hall, Acton, recently; Mr. H. J. Wakelam, M.Inst.C.E., County Engineer of Middlesex, President, presided.

Mr. F. Sadler, Surveyor to the Acton authority, read a paper on the "Duties of a Municipal Engineer in connection with Factories and Workshops." After speaking of the dual control of factories by the officers of the local authority and by the factory inspectors of the central authority, which was apt to lead to confusion and overlapping, as it was also a source of irritation to the occupiers of factory premises, he summarised the duties of the municipal engineer as follow:—

(1) The examination of plans of new factories and workshops, or additions and alterations to existing ones, and the supervision during construction, to see that the buildings are erected in accordance with the Public Health Acts and the building by-laws and regulations in force in the district.

(2) The inspection of factories and workshops, to ascertain whether there is sufficient and suitable sanitary conveniences for the employees.

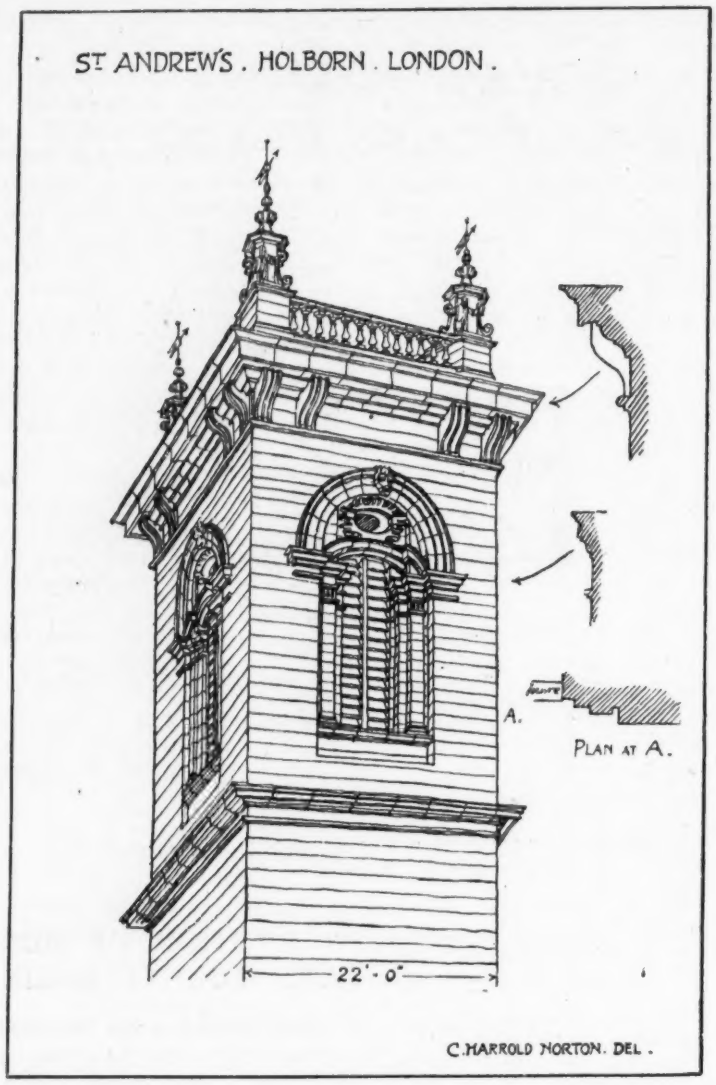
(3) The inspection of all factories and workshops wherein more than forty persons are employed, to see that they are provided with such means of escape in case of fire for the persons employed therein as can reasonably be required.

(4) Inspection with a view to preventing any injurious matters entering public sewers from factories and workshops.

(5) The inspection of factories and workshops where petroleum is stored with a view to licences being granted by the Council.

With respect to the erection of factories and workshops, he said the erection of such buildings in a district must conform to the building by-laws in force therein.

It would accelerate and regularise these methods of building if the Regulations and section of the Act, which are based on many years' experience and settled after careful deliberation and collaboration by experts, were made applicable to the whole country, either by a general Building Act or by means of by-



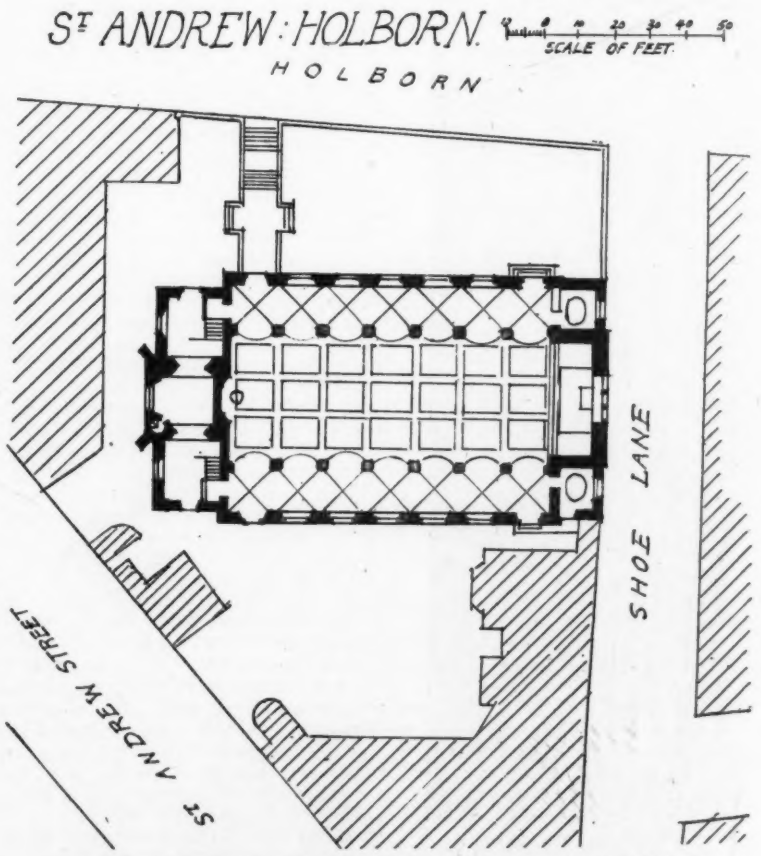
laws. The latter method would be preferable. The Regulations require plans and sections to be deposited of sufficient detail to show the construction of the proposed building, together with a copy of the calculations of the loads and stresses to be provided for and particulars of the materials to be used. The adoption of these Regulations by urban and rural councils would add materially to the work and responsibility of the Surveyor both in the examination of deposited plans and particulars and also in the supervision of the work, but it would clear away an anomalous position of affairs.

Mr. R. Brown (Southall) said the question of factories in districts around the Metropolis was a most important one. Acton was not the only place by any means where factories were going up *ad lib.*, and they were all met with the difficulties which Mr. Sadler had mentioned in his paper. In dealing with factories generally, it must be a matter of policy as to whether factories should or should not be allowed in any particular district. When a council decided to put in force the Town Planning Act and decided to develop a district partly for factories and partly for residences they must be prepared to accept and take the advantages and disadvantages of those factories. As to by-laws to allow the erection of buildings other than brick or stone work, such as concrete and steel-framed buildings, he warned Mr. Sadler as to adopting the London County Council Regulations for reinforced concrete buildings unless he obtained the whole of the powers given by the Act which permitted those regulations to be made. He did not think any reasonable local authority would object to their erection so long as they were designed by responsible engineers and supervised by proper men. Once they had in black and white the right to erect these buildings they had the responsibility of seeing they were subject to proper supervision. If a district allowed a factory to be erected, then it ought to be compelled to take the waste from the factory. It ought not to allow a factory to be erected and then refuse to take the waste.

Mr. E. Willis (Chiswick) considered the paper to be opportune at a moment when so many factories were being erected for munition works. With regard to the mixed supervision of factory buildings by the Public Health Department, the Municipal Engineers' Department, and the Government Factory Inspector, he thought it a pity that there should be more than one authority. Supervision was the crux of the whole matter in regard to reinforced concrete buildings. If a structure was well designed and the erection of the building was thoroughly supervised there was very little danger of its ultimate future. His own council gave temporary licences for these buildings under the 1907 Act for varying periods, according to the nature of the building. Under the licence they had power to give notice of withdrawal in the event of the building showing signs of weakness. There had up to the present been minor settlements, but nothing requiring the withdrawal of a certificate. As to the danger from fire, the trouble was not so much with new buildings, but with additions to old buildings, which blocked up openings. This required constant supervision. He had from 200 to 300 factories under supervision, and there had been structural alterations of a minor character required in about half a dozen buildings. He was not in agreement with Mr. Brown, that a factory should have the right to discharge its refuse through the sewers of the council. Why should one factory be entitled to do great injury to the ratepayers? There must be some means of mechanical separation or filtration of dangerous liquids entering through the sewers.

Mr. A. E. Collins (Norwich) said his council had hundreds of factories surrounded by houses. It was a most inconvenient arrangement for workpeople going to and fro. It was absolutely imperative to have by-laws for dealing with these places. They were completely hemmed in, and it was impossible to get additional exits. In many cases it was not necessary to go the length of putting up reinforced concrete, as corrugated-iron buildings were quite sufficient.

Mr. H. York (East Barnet Valley) said the working of the 1907 Act appeared to him to be a travesty of the law. Many of these buildings were not temporary—they were intended to remain there as long as they would hold together. Therefore the authorities were not within their rights in granting licences.



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GENERAL NEWS.

Greenock Housing.

At a special meeting of Greenock Corporation it was agreed to appoint four councillors and the Master of Works as a deputation to the conference of the National Housing and Town Planning Council to be held in London from April 11 to 14. Provost M'Millan stated that as the result of the last housing inquiry at Greenock they were already committed to an expenditure of about £100,000, and as soon as the war was over no doubt the Local Government Board would again press upon them the necessity of looking after the needs of the people in the way of new and better housing accommodation.

The White Tower, Salonika.

From the Army Headquarters at Salonika Mr. G. Ward Price sends some interesting notes respecting the White Tower. He says:—"Salonika is passing through a period of change. Even the White Tower itself is being modernised. From the time the Venetians built it 500 years ago until the Turks left it in the first Balkan War it was an object of well-deserved awe. The grim old tower is now no more formidable than the Crimean cannon you find in English corporation parks. Electric light and water are laid on inside. The battlements are used by our sailors for a signal station. On the second story of the Tower another English institution is installed. The country around Salonika is rich in archæological remains, and has never been properly explored. The Allied armies decided to take steps to preserve the relics that they found for the benefit of the Greek Government, to whom such discoveries naturally belong. A well-known English professor of archæology was here already as a lieutenant in the R.N.V.R., and he was put in charge of the collection of British finds, which he is arranging as a local archæological museum in the White Tower."

British Columbia Timber.

In pursuance of the policy of market expansion in the interests of the lumber industry, undertaken by the Hon. the Minister of Lands, Victoria, British Columbia, two further bulletins, prepared for the information of lumber consumers, have recently been printed. They are entitled "British Columbia Douglas Fir Dimension" and "British Columbia Western Soft Pine" respectively. The former publication deals with the qualities of Douglas fir for structural purposes. The bulletin is well illustrated, the claims to durability being supported by pertinent references to such buildings as the Craigflower Farm near Victoria, erected in 1851, and the Craigflower Public School, built in 1853, Douglas fir having been used throughout except for the roof of red cedar shingles, and practically no parts of the buildings having had to be repaired. Modern uses of Douglas fir for structural purposes are instanced by reference to the Arcade Building on Government and View streets, Victoria, erected in 1915, and the new Wharf Reception Room, Canadian Pacific Railway Dock, Vancouver. Another reference is to the Niagara Gulch trestle on the Esquimalt and Nanaimo Railway, built in 1896. Four hundred feet long, 120 ft. high, and on a 10-deg. curve, containing three-quarters of a million feet of Douglas fir, the trestle was still in excellent condition and good for further years of service when it was abandoned sixteen years later, owing to the alteration in grade. The wood known variously as Western Soft Pine, Mountain Western Pine, Arizona White Pine, and California White Pine is described in a similar manner in the publication, "British Columbia Western Soft Pine." This pine, which is distributed throughout the southern interior of the province, is equal in working and finishing qualities to the well-known Eastern White Pine, and is now being sold for the same purposes in the same markets. Its uses for dimension and framing timber, siding, interior and exterior finish, ceiling and partition work, sash and doors, turnery, patterns, box material, cooperage, etc., are touched upon in the text, while all processes of conversion are illustrated.

Painter-Stainers' Hall.

The Painter-Stainers' Company held a luncheon on Tuesday, March 28, on the occasion of the completion of alterations and additions to their Hall, which have been carried out by Mr. Searles-Wood, F.R.I.B.A. We hope to have an opportunity of describing the work done in detail in our series of numbers dealing with the City Companies and their Halls, merely saying here that the work has been well considered and excellently carried out, and reflects credit on the Company and their architect. A collection of the original charters of the Company, including those granted by Elizabeth and James II., were on view in the fine Court-room, and the assembled company, which included the Lord Mayor of London and the High Commissioners of Australia and New Zealand, had lunch in the Livery Hall, after which several excellent speeches were delivered.

Rodin's Sculptures.

A Reuter telegram from Paris states that M. Rodin has now made over his collection to the Government by deed of gift, together with the Palais Biron, where these works are assembled, which will shortly be opened to the public under the name of the Musée Rodin. The sculptor retains his studio in the building, but all the rest of the extensive building and its grounds with all their artistic equipment becomes public under Government supervision. It may be recalled that in 1914 M. Rodin gave to the British nation twenty examples of his work, including a replica of the famous group, "The Burghers of Calais."

Statue to Nurse Cavell.

Two years will be occupied in the completion of the memorial to Nurse Edith Cavell, for which a fund is being raised by the *Daily Telegraph*, but the bust which Sir George Frampton has first made, as a preliminary to the statue, has been sent to the Royal Academy. The site for the memorial is the island in the middle of the road opposite the National Portrait Gallery. The memorial will face south, and, being of a commanding height (33 ft.), will be seen from Trafalgar-square and even Whitehall. The figure of Edith Cavell, in nurse's uniform, will look towards Charing Cross Hospital, the white marble statue, 8 ft. in height, being outlined against a silvery-grey granite column. This monument, something of an obelisk in shape, will be crowned by the figure of Justice and Humanity seated, a sword across her knees, guarding an infant. The chair of Justice will have great arms which jut out on either side, so that in the distance the monument will bear the semblance of a cross, the nursing symbol. At the back a lion, in white marble, stamps upon a serpent.

Scientific Research.

At a meeting of the Council of the Institution of Municipal and County Engineers, held at Westminster on the 18th ult., it was reported that representatives of the Institution had met representatives of the Research Council, and that the question of scientific research in connection with the following subjects was discussed, viz.:—

1. The utilisation of a larger proportion of the calorific value of house refuse than is possible with apparatus and methods at present in operation, either by (*a*) an improved form of destructor, (*b*) the production of power gas from crude or disintegrated refuse, or (*c*) some other means.
2. The utilisation of tins by the introduction of a simple and effective detinning process and other improved methods of treatment.
3. The more thorough utilisation of clinker from refuse destructors.
4. The utilisation of sewage sludge.

The representatives of the Research Council stated that they would be willing to discuss, at a later date, any definite detailed scheme the Institution might put before them, dealing with the utilisation of house refuse and clinker, but they suggested that, in the first instance, the Institution should collect, tabulate, and analyse as far as possible, full information as to what has already been done in this direction. On the question of sewage sludge, it was also suggested that the Institution should collect information with a view to the drafting of a comprehensive scheme for research work.

The *Punch* War Cartoons.

An exhibition of the original drawings for *Punch* cartoons on the war by Bernard Partridge, L. Raven Hill, and F. H. Townsend will be opened on Saturday, April 8, at the Leicester Galleries, Leicester-square.

A Chamberlain Memorial.

A memorial bust of Mr. Chamberlain, which has been erected in Westminster Abbey by private subscription of a few intimate friends, was dedicated on Friday last week. Mr. Balfour performed the unveiling ceremony. The bust is by Mr. John Tweed, and is placed on the north side of the Abbey, near the monument of the late Lord Salisbury.

Standardisation.

At a meeting of the Standardisation Committee of the Institution of Municipal and County Engineers, held on March 18, a letter was read from Mr. J. S. Pickering, drawing attention to the standard form issued to members of the R.I.B.A., and suggesting that the Council should issue a similar form to the members of the Institution. It was resolved to recommend that a copy of the R.I.B.A. Form of Articles be supplied to each member of the Committee before the next meeting.

Industrial Progress and State Aid.

At the annual meeting of the Society of British Gas Industries on March 29 Mr. H. M. Thornton, the Chairman of the Council, delivered an address on "The Industrial Outlook and its Relations to the Gas Industry." Speaking of the proposed State assistance in industry he said: "I am not enamoured of the proposal to create a new Ministry of Industry and Commerce independent of the Board of Trade. In the multitude of Ministers there is weakness. I would prefer to see instead an enlargement of the Commercial Branch of the Board of Trade, which has done much valuable work during the war. I would like to see that branch extended so as to be an industrial and commercial department of the Board, and strengthened by being put under the control of a council of a few—a very few—men of wide business experience and proved business capacity, with adequate salaries and required on appointment to relinquish all business connections. . . . It is imperative that the administration of the Department of Industry and Commerce should be kept free from party influences and be carried on by business men on business lines. . . . In short, we want a State Business Building Department, with the time, ability, and power to organise to the full the maximum output and export of our various industries."

The British Fire Prevention Committee's Warning Service.

The British Fire Prevention Committee's fire warnings, which have been issued since the outbreak of war, cover a number of matters that require the attention of the public with the object of reducing the ordinary fire waste, as also points which will assist them in meeting the air raid danger. In addition to these general notices which have been made available to the public numerous special warnings have been issued by the Committee to meet individual interests, such as those of the hospital manager, the schoolmaster, the theatre owner, etc. Turning to the air raid danger, the Committee's warning No. 17A appears to be the favourite, and their circulars No. 18A or No. 18B refer to the general air raid question and the ordinary householder's aspect respectively. There are a number of special notices which are only issued to the proper competent authority or responsible applicant writing over his own signature from his regular address. No. 24 is only issued to ministers of religion in charge of places of worship; No. 20 only to education authorities, headmasters, and headmistresses of elementary and secondary schools; and No. 21 to managers of theatres, music halls, and cinema houses. Application must be made in writing with a large-sized stamped and addressed envelope enclosed for the reply. Requests should be addressed to the Registrar, The British Fire Prevention Committee, 8, Waterloo-place, London, S.W., and both the nature of the notice and the reference number of the warning must be given.

CHADWICK PUBLIC LECTURES.

IN the concluding lecture of the series of Chadwick Trust Lectures on "The Domestic Arterial System," delivered on Wednesday, March 29, at the Household and Social Science Department, King's College for Women, Campden Hill-road, Kensington, Mr. John Slater, F.R.I.B.A. (Chadwick Trustee), in the Chair, Dr. Charles Porter dealt with warming and lighting. In connection with the former he criticised the methods usually adopted, and referred to the various advantages claimed for, and the disadvantages urged against, coal, coal gas, and electricity as heating agents. He expressed the view that of the three that which most deserved the claim of being a hygienic heater was undoubtedly electricity. As regards safety, cleanliness, and convenience it was ahead even of gas, in favour of which so many claims were advanced. In the matter of cost he showed that, so far as electricity was concerned, installation was the great trouble; but where there was choice in any house between coal, coal gas, and electricity he advised that it should fall on the last-named. The many advantages of central heating were also referred to, and it was made clear that much could be said in favour of its adoption even in the case of ordinary-sized houses. The cost of installation probably deterred many from resorting to it, though possibly the fact that, comparatively speaking, the temperature of London is so equable may induce a feeling that complete house heating is unnecessary.

The problem of the kitchen range was touched upon, and the suggestion was offered that in these days of gas and electric cookers and hot water heaters it might very conveniently be abolished. One of the great difficulties in the way of abolition was the necessity for a fire in the kitchen. In this connection an appliance specially designed for use as a combined sitting-room fire, cooker, and water-heater was described and greatly praised, being cheap to purchase and install while economical and efficient in use.

In relation to lighting, the ordinary artificial agents were described and their comparative advantages and disadvantages considered. The methods of installation were indicated, and a number of slides and models shown. In the view of the lecturer, electricity was the only hygienic artificial lighting agent. In regard to natural light the fact that the most effective light came through the upper part of the window was indicated, and a number of objections, in regard to safety and comfort chiefly, were shown to exist to the practice of bringing the window too close to the floor level.

OBITUARY.

Mr. C. Hadfield.

Last week we announced the death, on March 23, at his residence in Norfolk-road, Sheffield, of Mr. Charles Hadfield, aged seventy-five years. He was the son of the late Matthew Ellison Hadfield, of Sheffield, architect, and the representative of the old Derbyshire family of Glossop, who latterly were of Lees Hall, Simmondley. His father, with whom he was associated in practice, was closely connected with the management of the local estate of the Duke of Norfolk. Mr. Hadfield was educated at St. Cuthbert's College, Ushaw, Co. Durham, and was a pupil of John Gray Weightman and of George Goldie. He was elected an Associate in 1863, and a Fellow in 1872, of the Royal Institute of British Architects, and served as a member of Council 1896–7; he received a certificate of competency to act as a building surveyor under local Acts of Parliament. He was a co-founder, in 1886, and Fellow, Past-President (1896–7), and Vice-President of the Sheffield Society of Architects and Surveyors. In 1897 he took into partnership his son, Mr. Charles Matthew Hadfield, under the style of Messrs. C. & C. M. Hadfield, of Sheffield. He was many years a member of the old Council, Sheffield School of Art; he succeeded his father as treasurer and co-manager of St. John's Institution for the Deaf and Dumb, Boston Spa, and he was President of the Sheffield Committee of the Society of St. Vincent de Paul.

Mr. Hadfield was largely employed upon ecclesiastical and other buildings, which he designed chiefly after the Perpendicular or Tudor manner for the Roman Catholic community, to which he belonged. Still, as our own columns testify, his professional labours were by no means confined to that field. With his father he was the architect of the Roman Catholic Churches of St. James, Marsh-lane, Liverpool (March 27, 1886, interior*), and St. Ignatius, Preston (October 2, 1886*). He was the architect of the Roman Catholic Churches of St. James, Bootle, St. Vincent, Sheffield (new aisle), and, with his son, of St. William, Banner Cross, Sheffield; and of St. Anne, Buxton—interior decoration, with marble floor and mosaic pudelia; for the completion, with tower, nave, and north aisle (July 25, 1908*) of St. Mary's Church, Stockton-on-Tees, begun by A. W. Pugin in 1841 and continued by G. Goldie in 1875; sale shops and artisans' dwellings, Infirmary-road, and Lock-street, for the Sheffield City Council, and St. Mary's new parish church, Wombwell, Yorks—chancel, organ-chamber, and vestries; he designed St. Marie's Roman Catholic Church, Sheffield, and also the altarinos or shrines of the Blessed Virgin and the Sacred Heart (November 6, 1886*), and the memorial to his father; and, in Sheffield, the large business premises adjoining the London City and Midland Bank, and the Drill Hall, and the following, as illustrated in our issue of October 9, 1897, No. X. of our series, "The Architecture of our Large Provincial Towns," namely, premises in High-street; Corn Exchange (with M. E. Hadfield); Cairns Chambers, Church-street, modern Gothic mode; cemetery gateway, etc.; and Nurses' Home, laundry, and other buildings for the Royal Public Hospital and Dispensary; also in Sheffield the Gas Company's offices; new premises for Messrs. Pawson & Brailsford; the new King's Head Hotel; Church Gates Buildings; and many Roman Catholic schools, including those of St. Wilfrid, Heeley, and St. Edmund, Sheaf-gardens; the Royal Hospital; Manor Public Elementary Schools; factory at the Moor for Messrs. J. Pickering & Sons, Ltd.; laying out of the new Intake Cemetery, with Roman Catholic mortuary chapel; Crematorium, City-road Cemetery, for the Corporation (July 30, 1904*), the two chapels and the entrance gates and offices being by M. E. & C. Hadfield, and the Roman Catholic Clergy House and Rectory, Norfolk-street. He was the architect of the churches at Handsworth and Wath; of many school-chapels and other buildings at Derwent and elsewhere in Derbyshire, to harmonise with the local work of the sixteenth and seventeenth centuries; Great Northern Hotel, Leeds (before the fire), and for the rebuilding of Thornbridge Hall, Bakewell. Messrs. C. & C. M. Hadfield won the second premium in the Sheffield (Primrose-meadows) Public Baths competition. Mr. Hadfield was the architect, jointly with Mr. Garland, for the reconstruction (1898) of the nave, aisles, and tower and spire of Wombwell parish church, for which he completed the scheme (as mentioned above) six years afterwards. He was the author of papers read to the Sheffield, York, and Manchester Societies of Architects upon "The Architecture of the Fifteenth-century and Early Tudor Period," "English Architecture of the Fifteenth Century," and "True Building"; and of one upon "Lead Work," read to the Sheffield Art Crafts Guild. Mr. Hadfield married, in 1867, Miss Rimondi, of Halifax, and leaves two sons and three daughters.

* Illustrated in the *Builder*.

THE LONDON COUNTY COUNCIL.

THE fortnightly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, S.W., Mr. A. F. Buxton, Chairman, presiding.

Tenders.—Tenders were received for the construction of foundations for an additional turbo-generator at Greenwich generating station.

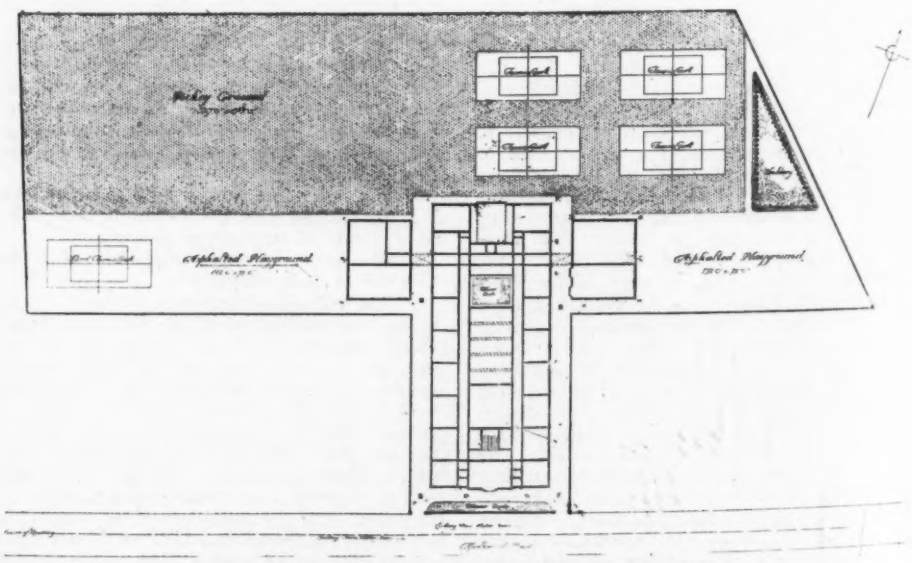
Statistical Returns.—The Local Government, Records, and Museum Committee recommended that the operation of the regulation which requires that a volume of "London Statistics," a "Statistical Abstract for London," and a volume of "Comparative Municipal Statistics" shall be prepared and issued annually be suspended for the year 1916-17. Also that the operation of the resolution in regard to the suspension, during 1916-17, of the printing of statistical returns be suspended so as to enable the undermentioned returns to be printed and issued:—(1) "County of London Valuation," and (2) "Rates Made."

London County Council (Money) Bill, 1916.—The Parliamentary Committee have prepared the London County Council (Money) Bill, 1916, to provide the borrowing powers by the Council for the financial year ending March 31, 1917, and for the following six months to September 30, 1917.

South-Eastern and London, Chatham, and Dover Railways Bill.—In a report submitted by the Parliamentary Committee it was stated that the Port of London Authority will ask for the insertion of a clause in the South-Eastern and London, Chatham, and Dover Railways Bill requiring plans of the proposed alteration of the Charing Cross Railway Bridge to be submitted to them for approval. The Committee, therefore, recommended that the Council take no action in the matter.

LVTON SCHOOL FOR GIRLS. (A)

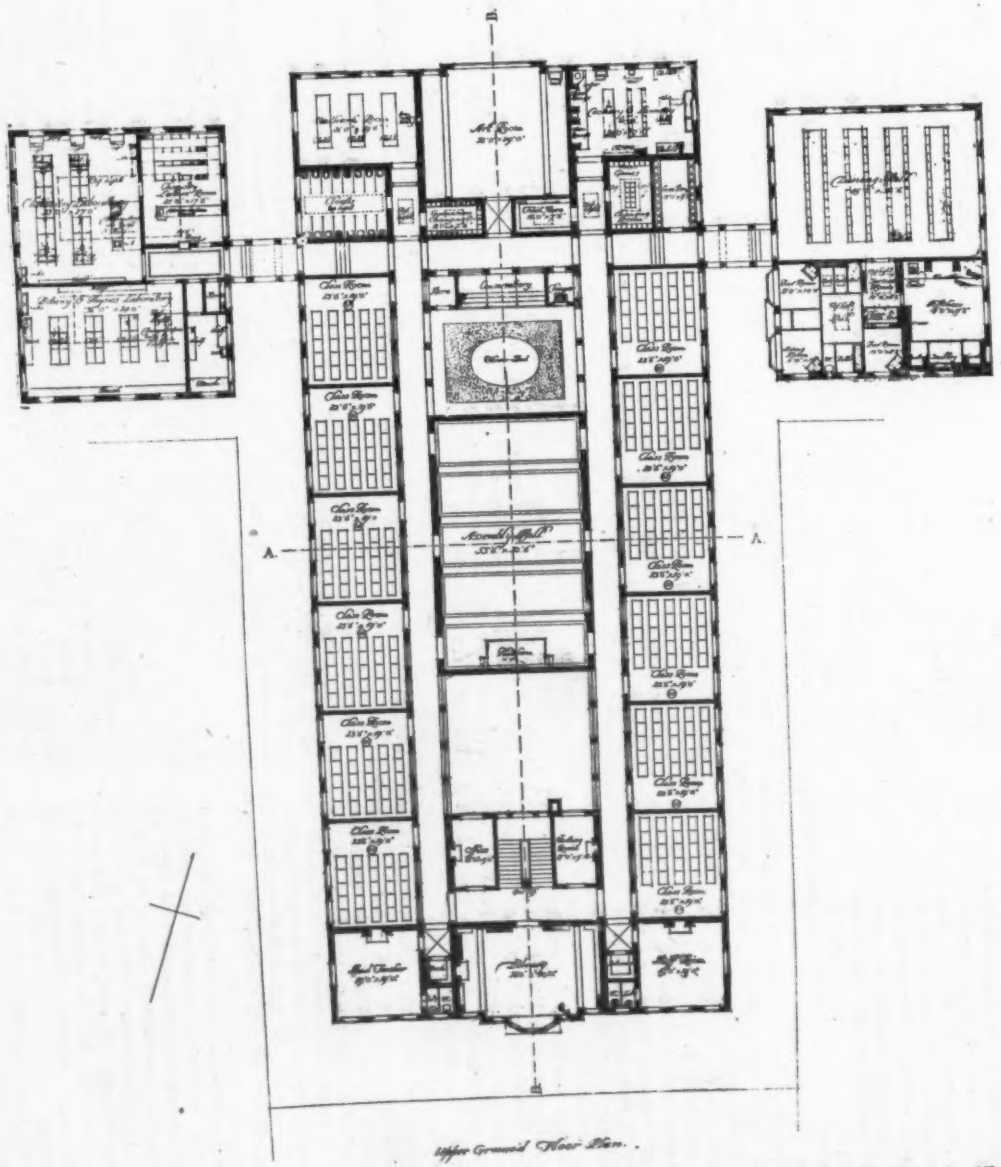
Scale of [illegible] feet



Design by Mr. A. W. S. Cross, F.R.I.B.A. (*See page* 263.)

LVTON SCHOOL FOR GIRLS. (A)

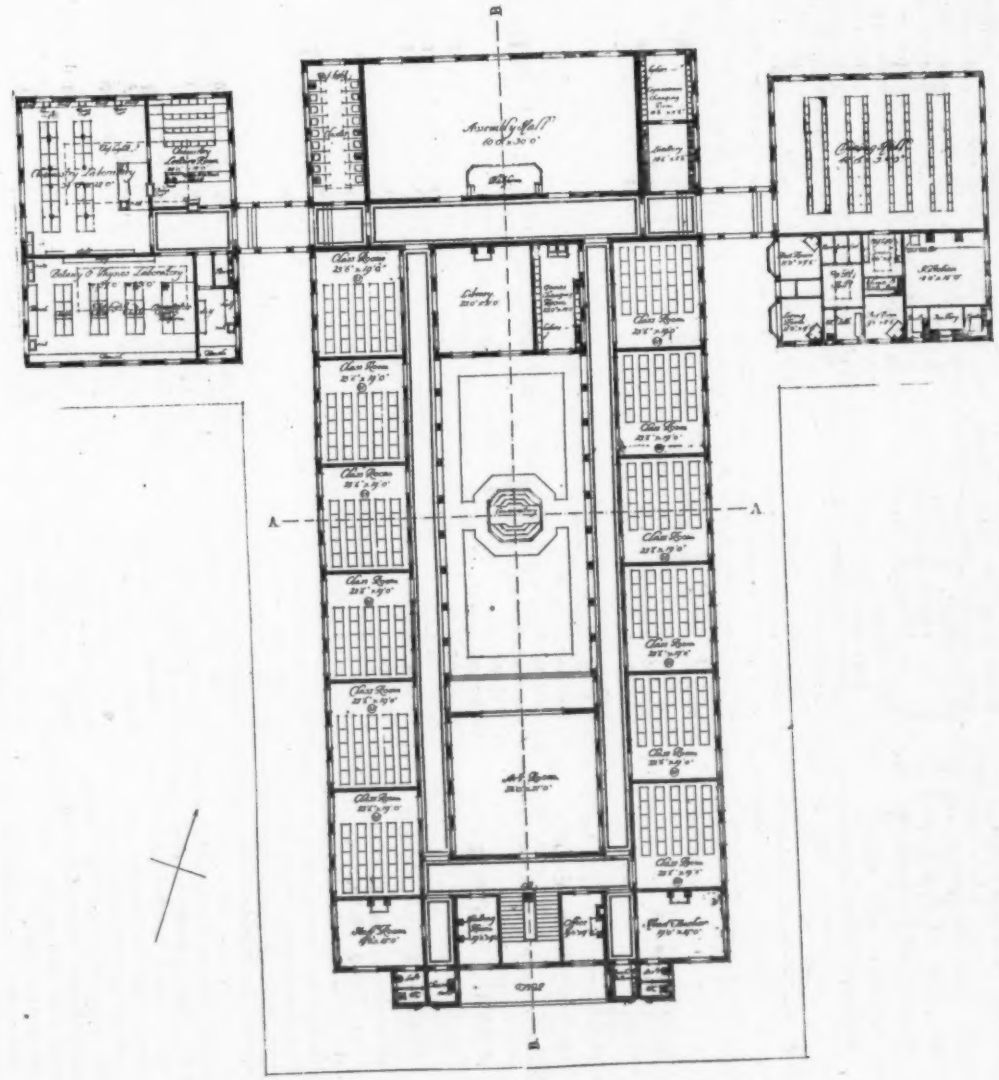
Scale of [illegible] feet.



Upper Ground Floor Plan.

LVTON SCHOOL FOR GIRLS (B)

Scale of [illegible] feet.



Upper Ground Floor Plan.

Designs by Mr. A. W. S. Cross, F.R.I.B.A. (See page 261.)

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ILLUSTRATIONS.

The New Technical Institute, Cardiff.

THIS building was opened on the 13th ult., the Right Hon. the Lord Mayor of Cardiff, Dr. R. J. Smith, performing the ceremony. On the previous Saturday the South Wales Institute of Architects were conducted over the building by the architects, Messrs. Ivor Jones & Percy Thomas.

Owing to the European War the completion of the building has been greatly delayed, and owing to the same cause the furnishing has had to be postponed, temporary rough furniture being used for the rooms required for immediate occupation, while the Chemistry Department, engineering workshop, and laboratory, bakery and electric engineering laboratory, etc., will not be used for the same reason.

The building faces the King Edward VII. Avenue, in Cathays Park, Cardiff, adjoining the Glamorgan County Hall, and opposite the University College of South Wales and Monmouthshire. The building roughly forms three sides of a square, the fourth side forming the future extension, which will add about one-fifth to the floor area of the present building. It is faced on the three principal sides with Portland stone from the quarries of F. J. Barnes, of Portland.

The whole of the bricks were obtained locally from the Phœnix Brick Works.

The floors throughout are of 6-in. concrete between rolled-steel joists, these and the steel roof principals, etc., having been supplied by Messrs. A. D. Dawnay & Sons, Ltd., of London and Cardiff.

The main roofs are covered with Dolemaen silver-grey random slates, and the other roofs are covered with Portmadoc blue slates, both being supplied by Messrs. Sessions & Sons, Ltd., of Cardiff.

The halls, corridors, lavatories, etc., are finished with terrazzo flooring, supplied and laid by the Marble Mosaic Company, of Bristol.

The floors of the rooms are finished with pitch-pine wood blocks, supplied and laid by Mr. J. F. Ebner, of London.

The heating and ventilating of the building has been designed on most up-to-date principles.

The heating consists of hot water apparatus worked from central boilers with accelerated circulation. This system provides a particularly uniform temperature throughout the building, and also economises the consumption of fuel. Provision is made for working in sections, and also for shutting off any portion not required.

For the ventilation of the building fresh-air inlets are provided in connection with the radiators, each inlet being under control. The vitiated air is extracted through various openings into sub-ceilings and ducts communicating to two large exhaust fans. A separate fan is also provided for the ventilation of the central hall and a further ventilating fan for the lavatories.

In the Chemical Department, in addition to the ordinary ventilation of the laboratories, a special fan is provided for extracting the fumes from the fume closets, this being kept quite distinct from the general ventilation of the building.

This system has been designed and carried out by Messrs. G. N. Haden & Sons, engineers, Trowbridge.

The sanitary goods throughout have been supplied by Messrs. Shanks & Co., Ltd., Bond-street, London.

Amongst other sub-contractors may be mentioned the following :—

Messrs. George Wragge, Ltd., of Manchester—Steel casement windows throughout, leaded lights, wrought-iron balustrading to main and secondary staircases, bicycle entrance, etc.

Messrs. Smith, Major, & Stevens, of Northampton—Goods hoist.

Messrs. Henry Hope & Sons, Ltd., Birmingham—Patent roof glazing.

The British Luxfer Prism Syndicate, Ltd.—Pavement lights.

Messrs. Ewart & Sons, Ltd.—Lightning conductors and copper flagstaff.

North of England School Furnishing Company, of Darlington—Folding partitions.

Messrs. H. W. Cashmore & Co.—Lead rain water-heads.

The Cardiff Gas Company—Hot water heater.

Mr. James Gibbons, of Wolverhampton—Door and window furniture, etc., throughout.

Messrs. Alfred Brown & Co., of Birmingham—Gearing to lantern lights.

The De Lank Quarries, Ltd., Cornwall—Granite curbing around building.

Messrs. John P. White & Sons, Ltd., Bedford—Oak fencing and gates.

Messrs. John Williams & Sons, Ltd., of Cardiff—Various castings, storage tanks, etc.

Messrs. D. Morgan & Sons, of Cardiff—Fireplaces, sinks, etc.

The electric light installation was carried out by Messrs. H. J. Cash & Co., of Westminster, under the supervision of the City of Cardiff Electric Light Department.

The main staircase is constructed of reinforced concrete on the Hennebique system, and was carried out by the general contractors. The stone carving to main entrance, etc., was carried out by Mr. Albert H. Hodge, of London, and the fibrous plaster work to the assembly hall by Mr. T. A. Jones, of Cardiff.

The general contractors for the building were Messrs. E. Turner & Sons, Ltd., of Cardiff, who have been contractors for the majority of the buildings in Cathays Park, and the architects were Messrs. Ivor Jones & Percy Thomas, also of Cardiff, who won the competition for the building in 1911.

The clerk of works was Mr. W. R. Irwin, of Malefant-street, Cardiff.

Wren's Churches.

WE give an illustration of St. Andrew, Holborn, reproduced from "The Churches of Sir Christopher Wren," by Mr. J. Clayton, published by Messrs. Longmans, Green, Brown, & Longmans, which we give by the courtesy of Messrs. Longmans, Green, & Co. We also give a reproduction of a sketch of the tower of St. Alban, Wood-street, by Mr. Harrold Norton. Further notes on these churches will be found on page 261.

Design for New Secondary School for Girls at Luton.

IN order to reserve the largest area possible for the playing-fields and playgrounds advantage was taken of the fall of the ground from north to south of the site, some 15 ft., to plan a lower ground-floor story towards the Marlborough-road boundary, containing the school entrance lobby and staircase approach to the upper ground floor, the bicycle-room, the boiler house, and coal store, the large cloak-room, and the covered playground. With these exceptions the whole of the school accommodation is arranged in a group of one-storied structures, the floors of which are slightly above the level of the ground at its highest point. It was found that under the general scheme of plan thus evolved the assembly hall could be placed either at the extreme northern boundary of the school buildings, as in scheme A, or, as in scheme B, in a central position between the twelve cross-ventilated classrooms that face east and west, and are approached by open arcaded corridors. Connected by open lobbies and placed east and west of the main structure are two subsidiary blocks of buildings, that on the east containing the school dining-room, kitchen, service-room, and caretaker's quarters, and that on the west the chemistry laboratory and lecture-room and the laboratory for physics and botany.

Provision is made in the playing-fields for a full-size hockey-ground and for four grass and one hard tennis courts in addition to two asphalted playgrounds, each about 150 ft. by 75 ft. The requirements of the Board of Education and the conditions of the competition were rigidly fulfilled.

A. W. S. CROSS.

MEETINGS.

MONDAY, APRIL 10.

Surveyors' Institution.—Mr. W. R. Davidge on "The Principles of Town Planning." 5 p.m.

Royal Society of Arts.—Mr. Edward A. Reeves, F.R.A.S., on "Surveying." (Lecture III.) 4.30 p.m.

Incorporated Clerks of Works' Association (at Carpenters' Hall, London-wall, E.C.).—Annual meeting. 6.45 p.m.

TUESDAY, APRIL 11.

Architects' Benevolent Society (at No. 9, Conduit-street, W.).—Annual general meeting. 5 p.m.

Royal Society of Arts.—Sir Daniel Morris, K.C.M.G., M.A., D.C.L., F.L.S., on "The Forest Resources of Newfoundland." 4.30 p.m.

WEDNESDAY, APRIL 12.

Edinburgh Architectural Association.—Annual general meeting. 8 p.m.

FIFTY YEARS AGO.

Hotel Furniture.

"ONE WHO LIVES AT HOTELS" writes with some reason:—I think you would be doing a service by pointing out the grievance in some of our new hotels, of the objectionable character of the bedroom furniture, most of them having thick stuff woollen furniture and hangings for their beds, the smell of which is very offensive and, in a sleeping apartment, I think, positively unwholesome. Staying some time since at one of the most westerly of the new hotels, I had some friends, and showing them over the house they said they could not live in it on that account.

It is the more to be regretted, as to most persons, I believe, the bed would be considered preferable entirely without furniture, or, if necessary at all, that it should be very simple, washable, and inexpensive.

[*** From the *Builder* of April 7, 1866.—ED.]

NO. 18, TUFTON-STREET, WESTMINSTER.

The premises, No. 18, Tufton-street, Westminster, until lately occupied by the Architectural Association, have been acquired by the National Library for the Blind, and alterations are being carried out for the Governors by Messrs. Turnbull & Son, of Northumberland-alley, Fenchurch-street, E.C., under the superintendence of Mr. Eric Hodder, architect.

ARCHITECTS' AND BUILDERS' SUPPLIES.

The managing director of a firm of architects' and builders' specialists, who is shortly proceeding to Australia, desires to hear from one or two high-class United Kingdom manufacturers desirous of opening up business in the Commonwealth. Communications in this connection should be addressed to the Secretary, Chamber of Commerce, Liverpool.

LEGAL SECTION.

NOTES ON CURRENT CASES.

Papworth *v.* Battersea Borough Council: Misfeasance or Nonfeasance.

THIS action, which has passed through more than the usual vicissitudes of a case before the courts of law, reached the Court of Appeal for the second time in December last, and its decision has recently been published in the legal reports.

The plaintiff, a lady, when riding her bicycle along Lombard-road, within the borough of Battersea, in order to escape collision with a carriage, passed over the grating of a gully which was connected with the public sewer in the same roadway. In doing so the plaintiff was thrown from her bicycle, and, the wheels of the carriage going over her, she sustained severe injuries, for which she sought to recover damages from the defendants. It was alleged that the defendants were liable in damages for the accident, both as highway authority and as sanitary authority, owing to their negligence in allowing the gully and grating to be below the level of the road surface, in not keeping the grating in proper repair, and in permitting it to be in a dangerous condition.

The defendants disclaimed liability (*a*) as the highway authority, on the ground that the liability of their predecessors—the Wandsworth District Board of Works—had never been transferred to them; and (*b*) as sewer authority, because they had been guilty of nothing more than nonfeasance.

The action was first tried by Mr. Justice Horridge with a common jury in December, 1913 (78 J. P. 173), when the jury found as facts that the plaintiff's accident was caused (*a*) by riding over the gully; (*b*) by the negligence of both the road authority and the sewer authority in allowing the gully to be below the adjoining road surface; (*c*) by the negligent construction of the gully itself by both the road and the sewer authorities; (*d*) by the negligence of the defendants both as road and as sewer authority in not remedying the defect of the gully being below the roadway; (*e*) by the frame of the gully grating being broken, and, further, they found that the defendants both as road and as sewer authority were guilty of negligence in not repairing it.

The jury assessed the plaintiff's damages at £1,961. Upon these findings of fact by the jury the learned judge held that the original defective construction of the gully was done by the Wandsworth District Board of Works, who were the defendants' predecessors in title and who were constituted both the road and the sewer authority for the road where the accident happened by the Metropolis Management Act, 1855; and he further held that the Wandsworth District Board remained liable for any matters which occurred during their administration, and that their successors were responsible only for the exercise of the powers transferred to them by the amendment to the Metropolis Management Act of 1888 and by sect. 4 of the London Government Act, 1899, and that by these Acts the liability for the original defective construction of the gully was never transferred to the defendants. In their position as sewer authority the learned judge held that the defendants were liable for negligence in not seeing that the inequality in the surface levels, owing to their gully being so much below the roadway, was remedied, and for negligence in not repairing the broken gully. In their position as road authority he was of opinion that the defendants were not liable either for the gully being below the level of the roadway or for not repairing the broken gully. Judgment was accordingly entered for the plaintiff for £1,961 with costs.

The defendants appealed on the ground that there was no evidence before the jury as to the status of the defendants under which they controlled the gully and that no question was left to the jury as to whether the defendants knew, or had the means of knowing, or ought to have known, of the defect in the gully. The defendants also alleged that no directions were given by the learned judge to the jury to address their minds to this question in answering the question as to negligence.

The appeal was heard in November, 1914 (79 J. P. 105), and a re-trial of the action was ordered upon the grounds that the jury ought to determine whether the gully was a thing for which the road authority were responsible to the exclusion of the sewer authority, or for which the sewer authority were responsible to the exclusion of the road authority, or for which they were both responsible, for the reason that if the gully was vested in them as road authority the defendants would not be liable for mere nonfeasance, and upon the further ground that, if it should be found that the defendants were responsible for the gully as sewer authority, it ought to be determined—in order to ascertain whether there was actionable negligence—whether the defect was known, or with reasonable diligence would have been known to the defendants.

Lord Justice Buckley (as he then was), in his judgment, said the jury had found that the accident to the plaintiff arose through her riding her bicycle over the grating, but the defendants contested the view that the condition of the grating or its position relative to the surface of the roadway caused her fall. As to the question whether the defendants were liable as a road authority or as a sewer authority it should be borne in mind that the sewer was laid in 1865, but the road itself was not made until 1883. The first thing to be determined, therefore, was whether the gully and grating were controlled by the defendants as road authority or as sewer authority, or by them in both capacities. If the grating belonged to the defendants as road authority then, following the decision in the case of Cowley *v.* Newmarket Local Board ([1892] A. C. 345), if this were mere nonfeasance—that is, if they did not replace the broken frame if it was broken, or if they did not raise the sunken grating if it was sunken, and so on—they would not be liable. Upon the other alternative, supposing that the defendants are rendered liable as the sewer authority, it must first be ascertained whether they have been negligent as such sewer authority, and they will not have been negligent unless they knew, or had the means of knowledge, or ought to have known of the defects in question.

To the question, "Was the accident to the plaintiff occasioned by the negligence of the defendants in not remedying any defect in the gully owing to its being below the roadway (*a*) as sewer authority or (*b*) as highway authority? the jury answered "Both," without discriminating between the responsibility of the defendants in one or other character. That is, the jury said that in as far as the accident was due to the gully grating being below the roadway the defendants were negligent in both capacities. As to the broken condition of the grating, the jury only found that it contributed to the accident, but they did not say that it would have happened apart from the grating being broken. In these circumstances he was quite unable to understand whether the jury meant that the accident was caused by the dishing of the gully, or the sinking of the gully, or the broken frame, or some or which of them. There was also a question of mixed law and fact upon which the differing responsibilities of the defendants as road authority or as sewer authority rested, viz., was this grating a thing for which the road authority was responsible to the exclusion of the sewer authority, or were the sewer authority responsible for it to the exclusion of the road authority, or were they both responsible for it? The fact was that when the road was made in 1883 the granite setts with which it was paved and the gully in question were both put in, and the expense of so doing was apportioned over the frontagers under the powers given by Act of Parliament; but upon this the question was whether the road authorities bought and put the gully in, and, when it was put in, who had control over it. He thought that *primâ facie* the grating formed part of the surface of the road; it was put there to support the carriage or foot passenger who is passing, and it was pierced for the purpose of allowing water to pass through it into the sewer; but it was a question which should have been left to the jury to find as fact whether the grating formed part of the sewer or part of the road. Supposing it was as sewer authority that the defendants were responsible, then the negligence alleged must be proved against them, and negligence depends upon knowledge or means of knowledge. If there is neither one nor the other, even although you owe a duty, it may not be negligent not to perform it, and upon the assertion that the grating was defective and a portion of it actually wanting the question of knowledge was material.

As a result of the decision of the Court of Appeal the case was re-tried in February, 1915 (79 J. P. 309), by Mr. Justice Scrutton, with a special jury, and this jury found (1) that at the time of the accident a piece of the frame of the grating was missing; (2) that the grating itself was not dangerous to a careful cyclist; (3) that the danger was due to the original placing of the grating in an excessive depression and not to any subsequent alteration of position; (4) that the plaintiff's injuries were not caused specifically either by the broken frame or by the dangerous condition of the grating; (5) that the plaintiff could not have avoided her fall or injury by the exercise of reasonable care and skill, considering the presence and position of the carriage and the state of and depression in the road; (6) that the grating was part of the road, that it was placed in the road by the Board of Works for the Wandsworth district, that it was paid for by the frontagers, but was controlled by the road authority; (7) that at the time of the accident neither the road authority nor the sewer authority nor their servants knew or could have known of the defect in the grating by the exercise of reasonable care. In answer to a supplemental question the jury found that the accident was caused by the broken frame and grating being in an excessive depression.

Mr. Justice Scrutton said he understood the findings of the jury to be that there was no settlement of the gully after its original construction, that the frame of the grating was broken and part of it missing, but that the broken part was so full of detritus that it was not negligent not to have discovered that it was broken. They accordingly found that the accident was caused by the original construction of the channelling, gully, and grating, the grating being so much below the level of the surrounding road that it was a danger; but they also found that, although it was a danger, it was not negligence not to have seen that it was a danger, although the learned judge concluded that they thought it was a danger. The persons who carried out the original construction of the gully and grating in the roadway were the Wandsworth Board of Works, who are two removes from the present defendants. The present defendants are the successors of the Vestry of the parish of St. Mary, Battersea, and the Local Government Act of 1899 transferred to the defendants not only the property but the liabilities of the Vestry, but in the Act which turned the Wandsworth Board of Works into the Vestry of St. Mary, Battersea, there are no express words transferring liabilities to the Vestry. Mr. Justice Horridge had decided that the liabilities of the Wandsworth Board were not transferred to the defendants on the general principle that when you retrospectively want to transfer liabilities you must do so by clear words, and he, Mr. Justice Scrutton, did not propose to interfere with that decision. It therefore follows that a previous road authority having put down a dangerous grating—dangerous, that is, by reason of the difference of level between it and the road—their successors

in duty have done nothing to alter it. Doing nothing on the part of a road authority is, however, not actionable, and there is not even a finding that this doing nothing was negligent, because there is an express finding that the defendants neither knew nor by reasonable means could know of the defect, if any. Consequently, assuming that the plaintiff's injuries can be ascribed to the road authority, the plaintiff must fail, because she has not established any misfeasance on the part of the defendants as a road authority. He thought there was an obligation upon a road authority to use reasonable care in the construction of roads, but they were not called upon to warrant the safety of the road, and if a defect not discoverable by reasonable care caused an accident they would not be liable. If, therefore, it was not negligent not to have foreseen the danger resulting from the difference in level, it was questionable whether even the Wandsworth District Board would have been liable for their original construction. He held that the jury had not found that the defendants were negligent as a sewer authority, because although they found that there was a default it was not such a default as reasonable care could have avoided. A road, he said, that has a hole in it would be a dangerous road, and in his view a grating put over a hole through which surface water is removed from a road becomes part of the road, and it is there to afford safe transit along the road. He considered it an extremely unsatisfactory state of things that there should be this difference between liability as road authority and liability as sewer authority, but the remedy is for Parliament to step in and put the road authority in the same position as the sewer authority. He therefore gave judgment for the defendants with costs, including the costs of the first trial.

From this decision the plaintiff appealed, and the matter came before the Court of Appeal for the second time on December 3 and 6, 1915, and is reported in [1916] 1 K. B., p. 583. For the plaintiff it was then argued that the original placing of the frame and grating in the dangerous condition they were was an act of misfeasance for which the Wandsworth District Board would have been liable if any accident had occurred, and it could not be contended that the liabilities of the Wandsworth Board did not pass to their successors and to the defendants.—Lord Justice Pickford said the case had been made somewhat difficult owing to some confusion in the findings of the jury, but he thought the effect of them was that the accident was caused by the undue depression of the grating below the surface of the road causing a steep decline, that that depression was a part of the original construction, and that the defendants were not negligent in not having discovered that that extreme depression was dangerous. It was said that the jury impliedly found negligence on the part of the Wandsworth District Board in constructing the gully in the way they did, but in his opinion if negligence is to be relied upon as the foundation of an action it must be expressly found. The evidence was that this method of construction both of the grating and frame and of the adjoining parts of the road was the universal method of construction at the time according to the state of skilled knowledge then existing, and he thought there were probably thousands of similar gullies still remaining in the London district. It is quite possible, he said, to have a thing which experience shows to be a danger and yet there may not have been any negligence in first constructing it. The position, therefore, is that the Wandsworth District Board, exercising proper and reasonable care and skill, constructed, about thirty years before this accident happened, a grating in a manner which was not negligent, but which the jury found in the circumstances of this case to be dangerous. The Wandsworth Board had carried out their statutory powers in a reasonably careful and skilful manner, and he did not think that there was an absolute duty imposed upon them of making the road safe. If a local authority do something which afterwards turns out to be dangerous, but in doing it they exercise reasonable care and skill, in his opinion they are not responsible. If the state of things had been such that as time went on it became clear that the grating so placed was dangerous, and if the local authority who laid it or their successors allowed it to remain so, they might be responsible, because it might be said that they were negligent in not having altered it; but, as he took the view that the Wandsworth District Board would not have been liable, it was not necessary to inquire whether any liability was transferred to the defendants. Lord Justice Bankes concurred, and Mr. Justice Neville said that even though the grating was so constructed in 1883 that many years afterwards it proved to be a danger to cyclists, that would not be such a misfeasance as would make the road authority liable unless they had failed to take reasonable care in the original construction.

The appeal was accordingly dismissed, and the judgment of Mr. Justice Scrutton for the defendants in the second trial was affirmed.

From the point of view of the general public it is very unsatisfactory to find that because a part of a road is controlled by a road authority no compensation can be obtained for an accident due to their not bringing their constructions up to date and that they are only liable when they actually do something in a careless or unskilful manner perhaps thirty years before an accident occurs, whereas when the same authority acts as a sewer authority they may be liable if they allow their works to remain in an antiquated and dangerous condition. There is little hope that the observations of Mr. Justice Scrutton as to the present unsatisfactory state of the law on the matter will receive the attention of Parliament during the continuance of the war, but it is a matter which will require serious attention at the earliest available opportunity.

LAW REPORTS.

KING'S BENCH DIVISION.

(Before Mr. Justice DARLING and a special jury.)

Corporation Sued for Negligence: The Public Trustee *v.* Torquay Corporation.

THIS was an action tried at the recent Devon Assizes by Mr. Justice Darling with a special jury, in which the Public Trustee, in whom were vested eight houses at St. Michael's-terrace, Torquay, claimed damages against the Corporation of Torquay for alleged negligence, whereby a wall belonging to the plaintiff fell and damaged his property. The damages were agreed at £350, subject to liability being found.

Mr. Clavell Salter, K.C., M.P., and Mr. J. G. Pease appeared for the plaintiff; and Mr. J. A. Hawke, K.C., and Mr. Harry Geen for the defendants.

Mr. Clavell Salter said the houses in question were built in the year 1878, and at the rear was a passage giving access to the back entrances. The site being upon a hillside, the ground had been terraced, and a facing wall of about 20 ft. in height was built against the embankment at the back of the passage. The houses drained into a sewer laid in the passage, and in the year 1914 questions arose as to the state of the drainage, but after some correspondence it was agreed that the owner of the houses was responsible for the drains as far as the sewer, but that the Corporation were responsible for the line of sewer itself. After investigation the Corporation decided to relay the sewer, and the work was carried out in September, 1914. The old pipes were taken out and new pipes were laid in the same line of trench. The plaintiff alleged that the work was negligently done, as in February, 1915, the greater part of the facing wall came down with a crash and did a great deal of damage and destruction. The case for the plaintiff was that the trench was cut too close to the facing wall, that it was improperly timbered, and that the trench had been opened out in one length instead of in sections.

Mr. C. S. Appleton, architect, Torquay, gave the results of his inspection immediately after the wall had fallen. He came to the conclusion that the collapse was not due to a landslide, but that it was caused by interference with the foundations of the wall in digging the trench and in not timbering it. The reason he assigned for the wall not falling for five months after the completion of the work was that the ground was able to support the weight of the wall until the wet weather came, which loosened the ground and allowed the foundations to slide. He did not consider the mortar produced by the defendants was of good quality, and he admitted that the wall was not provided with drainage holes.

Mr. D. Edwards, engineer, Taunton, said he considered the masonry of the wall of good quality. Mr. H. Goss, quantity surveyor, and Mr. Penwell, builder, also gave evidence for the plaintiff.

Mr. Hawke, for the defendants, said the wall had fallen owing to its age, plus an abnormal rainfall for the previous two months, for which no relief was provided in the construction of the wall.

The workmen who relaid the sewer stated that they excavated enough for a day's work and then relaid the pipes and rammed in the trench every day. It was untrue to say that the whole length of trench was taken out at one time. They considered timbering unnecessary, as the trench was cut through shillet and hard rock, and the sides stood up without any support.

Mr. George Sleeman, clerk of works, said the sewer was relaid under his supervision, and he did not consider timbering necessary. The trench had not been timbered when the sewer was first laid. The work was carefully done, and the trench filling was well rammed.

Mr. Gillard, Deputy Borough Surveyor, said the wall did not slide, but it toppled over owing to the pressure of earth behind when it became waterlogged after the excessive rains. There were no footings and no drainage holes, and the wall had no batter, but was vertical and about 2 ft. thick.

Capt. Garnett, A.M.Inst.C.E., Borough Surveyor, said the digging of the trench had no effect upon the foundations of the wall. For part of its length the wall faced a rock cutting, but for some distance it acted as a retaining wall against filling, and for this purpose it was badly designed and unable to stand the strain any longer, and, this portion giving way, it pulled the remainder with it. In some parts of the wall the mortar was fairly good, but in other parts it was very poor, and in some cases the back of the wall was filled in dry and without any mortar at all. The lower courses of the wall had not shifted, and the fall was not caused by sliding of the foundations.

Mr. Ham, clerk of works at the new baths, and Mr. Ryder, clerk of works of the new theatre, gave corroborative evidence.

Mr. J. Moulding, M.Inst.C.E., City Engineer, Exeter, was of opinion that the digging of the trench had nothing to do with the fall of the wall, but that the wall being of faulty design, it could not any longer withstand the pressure behind it.

Mr. Norman Bridgman, A.R.I.B.A., said the mortar was very poor, and the wall was weak in construction. The foundations had not moved from their original line.

His Lordship, in summing up, pointed out that the trench never had been timbered, although it had been laid and relaid. He considered it no more negligent not to timber the trench when the sewer was relaid than it was not to have done so when the sewer was first laid. The evidence was uncontradicted that the trench was cut in short sections, and the same material that was taken out was replaced and was rammed in again as a conclusion to each day's work. The defendants' witnesses had adduced the theory that the wall fell because it was unable to stand the thrust in the portion which acted as a retaining wall as distinct from the portion which acted merely as a facing wall, and it was for the jury to say whether the plaintiff had satisfied them that the defendants were guilty of any negligence in carrying out their work so as to endanger the safety of the plaintiff's wall.

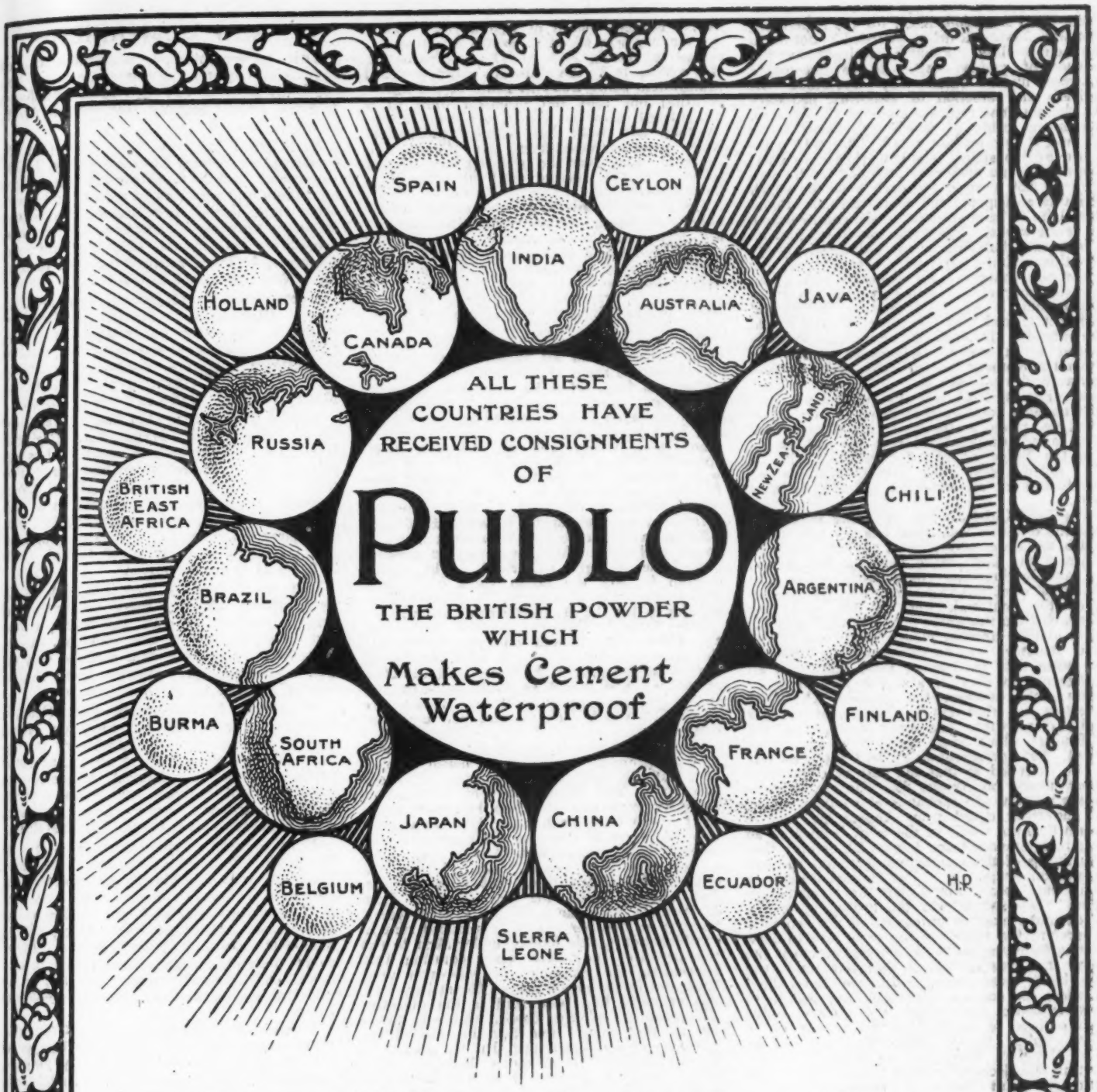
The jury found that the defendants had not been negligent, and judgment was accordingly entered for the defendants, with costs.

COURT OF APPEAL.

(Before the LORD CHIEF JUSTICE, Lord Justice WARRINGTON, and Mr. Justice SCRUTTON.)

The Reconstruction of a Theatre; Action by Structural Engineers: George Lands & Son, Ltd. *v.* Manchester Palace of Varieties, Ltd.

THIS case was heard on the 27th ult. upon the appeal of the defendants from a judgment of Mr. Justice Rowlatt in the action which was brought against them by Messrs. Geo. Lands & Son, Ltd., structural engineers, of Colwick, Nottingham, arising out of a contract for the internal reconstruction of the Manchester Palace Theatre.



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Mr. Cyril Atkinson, K.C., for the appellants, said Mr. Justice Rowlatt awarded plaintiffs in the action £514. Plaintiffs claimed for the balance of money alleged to be due on a contract under which they undertook the delivery and erection of steelwork necessary for the internal reconstruction of the theatre, the entire inside of which was being taken out and a new interior fitted. The only point raised by the appeal was with regard to £350, representing an allowance provided in the contract of £50 a week for each week by which plaintiffs anticipated the contract time. Plaintiffs claim to have anticipated the contract time by seven weeks. The claim was based first on a certificate, but that failed. Alternatively the plaintiffs claimed that the money was due under the contract. No evidence was given that the contract had been anticipated by seven weeks, but it was alleged that defendants' architect agreed that the contract time should be extended in such a way that plaintiffs gained seven weeks. Defendants denied the alleged agreement or that the architect had any authority to make it.

Mr. Parfitt, K.C., for the respondents, said that no such point as that there was no agreement was raised at the trial. If the point had been raised as a point of law it was unthinkable that the Judge would not have dealt with it. He relied upon the arrangement which eventuated in an extension of the contract time.

The Lord Chief Justice, in giving judgment, said the question was what was the agreement which was eventually arrived at, long after the contract had been made between the parties, as representing the date from which the plaintiffs' work was to commence? By the contract the materials were to be ready for despatch from the works not later than May 26, 1913, and by another clause the lifting of the steel structure was to commence on June 24. At some date in August, 1913, there was an agreement to vary it, and this seemed to be quite clear between the parties. The only question was what was that agreement. It was quite clear there had been delay, and the difficulties which arose resulted in the agreement, that agreement being that the time was to be extended so that the date of commencement should be August 20. The real dispute was what was the meaning of commencement of the work dated from August 20. Did it mean that the whole of the work from May 26 was to commence from August 20, or only that the lifting of the auditorium steel was to commence on August 20? The learned Judge, in the Court below, found that the "commencement" referred to was the beginning of the work undertaken in pursuance of the contract. Therefore the whole of the work was to commence from August 20 in order to arrive at the time that was saved. If that was right, the appellants were wrong. He (the Lord Chief Justice) had come to the conclusion that there was evidence upon which the learned Judge was entitled to decide that the agreement, in fact, applied to the extension from May 26, and therefore there was no ground for disputing the decision in that Court. There was another point that the architect had no authority to make such an agreement. It was objected that this point was not at issue before the learned Judge at the trial. The real question in dispute before the Judge was what was the true agreement arrived at, and on that point his Lordship held that the appellants did not succeed. The judgment must stand, and the appeal dismissed.

Mr. Justice Warrington and Mr. Justice Scrutton concurred.

OFFICIAL REFEREE'S COURT.

(On March 13.)

(Before Mr. VEREY.)

Vinson *v.* Lord Molesworth.

IN this action Mr. Vinson claimed £600 odd from Viscount Molesworth for dilapidations under a repairing covenant of an agreement under which Lord Molesworth, in October, 1907, took a country house called Walters Hall at Monkton, near Margate. The agreement was made with the defendant's predecessor in title, Mr. Lewis, and was for three years certain with an annual occupation afterwards, subject to six months' notice in writing.

Under the covenant upon which the action was brought the tenant agreed that he would forthwith, upon the signing of the agreement, put the place in thorough repair. It was a very old house, dating back to the eighteenth century, added to in 1852, and, on account of its condition and the repairing clause, was let at the reduced rental of £60 a year. When the tenancy was about to expire a notice was served in March, 1914, and Lady Molesworth was written to by the plaintiff's solicitor—Lord Molesworth being away in India at the time—pointing out that the premises were in a dilapidated state and likely to become worse, as they had been left without occupation. After some correspondence, Mr. Jennings, a surveyor, went over the premises and made a schedule of the repairs which he believed to be necessary.

Mr. Joseph Jennings, a surveyor, of Canterbury, was called, and said that, after studying the terms of the agreement, he made his survey, and found that a large sum of money would have to be spent upon the premises before they could be again occupied. He subsequently prepared a schedule of dilapidations, and had fixed the cost at pre-war prices, which amounted to £601 15s.

The witness was cross-examined at length upon the details of his requirements, and he admitted that some of the items were simply deductions from what he saw. For instance, he had put down the renewal of greenhouses which appeared to have existed against a wall, and he had claimed for the reinstatement of vines in a vinery, and of rose-trees, which appeared to have been removed. He said they were rose-trees because the removals had been from the rose-garden.

Lady Molesworth, giving evidence for the defence, said they spent between £200 and £300 upon repairs before they went into the house, and more while they were in occupation. She thought the £600 ought to be enough to buy the house right out. Lord Molesworth was at present on military duty, serving in the R.F.A. Reserve at Salisbury.

The Official Referee pointed out that the house was an old one, and said that the repairing covenant must be read having regard to the age of the house and the class of persons who would be likely to occupy it. It had been unoccupied for several years before Lord Molesworth took it, and had not been occupied since he (Lord Molesworth) left it.

In giving judgment the Official Referee said that the property consisted of a house, stables, and outbuildings, and a garden of about two acres. The house had been built about 200 years ago and additions had been made to it about sixty years ago. Mr. Lewis, who was the owner at the time the agreement was entered into, stated that it was then in a wretched state of repair, and had been unoccupied for a long time, that he would then have taken £1,500 for the freehold. Lord Molesworth took the house on a three years' tenancy at £60 per annum, a reduced rent in consideration of his having undertaken to put the premises in repair upon entering into possession. He remained in possession until 1914, and in the meantime, in November, 1913, the property had been sold to the plaintiff. The evidence of Mr. Lewis, who was owner up to that time, was that he visited the premises several times, and that the suggestion by the plaintiff that no money had been spent upon them was untrue, as he was more than pleased with the steps taken by the defendant to put them in order. When he last visited the premises in 1912 he thought that the tenant had thoroughly performed his contract to repair. Mr. Lewis was an independent witness and had an interest in seeing that the tenant performed his covenant, and it was clear that he kept an eye upon what was being done. Lady Molesworth said that she had spent £200 on the initial repairs, that the outside had been painted twice during the tenancy, and that upwards of £300 had been spent on the property. In comparing the evidence for the plaintiff with that for the defendant it was clear that the plaintiff's surveyor was mistaken when he said that no repairs had been done, and he (the Referee) thought that he had adopted a very high standard in his estimate and in his prices. The evidence satisfied him that the place was in a better condition at the termination of the tenancy than at the beginning, and he could not understand how £600 or any such sum could be required. But if a tenant committed a breach of covenant to repair the landlord was not compelled at once to do the repairs, and was entitled to judgment for damages. After careful consideration of the whole of the evidence, and on looking at all the facts, he found that some repairs were necessary, and that the defendant had failed to carry out the covenant, and, after making proper allowance for the rise in prices, he found that the plaintiff was entitled to recover as damages £150.

Judgment was accordingly entered for the plaintiff for £150, with costs.

NEW COMPANIES.

THE undermentioned particulars of new companies recently registered are taken from the Daily Register compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, Chancery-lane, W.C.:—

R. BARTON, ADAMSON, & Co., LTD. (143,235), Sandringham Works, Enfield-highway, Enfield. Registered March 8. To carry on business of makers and repairers of motors and electric cars, vans, lorries, fire engines, and electric carriages of every description, dealers in all accessories and outfits, oils, lubricants, etc., engineers, builders, contractors, steel founders, etc. Nominal capital, £2,000 in 2,000 £1 shares.

MATTHEWS & CO. (MARGATE), LTD. (143,251), 133, High-street, Margate. Registered March 9. To carry on business of drapers, furnishing and general warehousemen, furniture and fittings, engineers, contractors, gas fitters, land, house, and estate agents, builders, etc. Nominal capital, £2,000 in 2,000 £1 shares.

BROWN HALLS, LTD. (143,266), 2, Half Edge-lane, Eccles, near Manchester. Registered March 11. To purchase or acquire a leasehold plot of land in Church-street and Corporation-road, Eccles, with the electric picture theatre thereon, to enlarge, reconstruct, etc., said theatre, to build, etc., other theatres, etc., and carry on business of theatre proprietors and managers, etc. Nominal capital, £2,000 in 2,000 £1 Ordinary shares.

BARWICK & PROSSER, LTD. (143,287). Registered March 15. To carry on business of general carriers by land and water, railway and forwarding agents, etc., smelters, builders, contractors, engineers, tool makers, steel and iron founders, gas makers, etc. Nominal capital, £10,000 in 10,000 £1 shares.

T. BROOK & CROWTHER, LTD. (143,295). Registered March 15. To carry on business for the manufacture of machinery for drying and preparation of gun cotton, and other explosives, etc., mechanical engineers, iron founders, tool makers, and brass founders, builders, electrical water supply engineers, etc. Nominal capital, £3,000 in 3,000 £1 shares.

BURT & SON, LTD. (143,297). Registered March 16. To carry on business in the United Kingdom and elsewhere of exporters and importers of coal, timber, iron, slates, and building materials of all kinds, carriers by land and water, dealers in bricks, tiles, pottery, terra-cotta, china and earthenware goods of every description, contractors, builders, engineers, etc. Nominal capital, £15,000 in 750 £10 Ordinary shares and 750 £10 Preference shares.

COOKE'S (FINSBURY), LTD. (143,298). Registered March 16. To carry on business of manufacturers of and dealers in furniture, upholstery, etc., stoneware and metal goods, earthenware, builders, glaziers, plumbers, gas and electric light engineers, water and sanitary engineers, etc. Nominal capital, £15,000 in 6,250 £1 Preference shares and 8,750 £1 Ordinary shares.

CYMOGRAPH, LTD. (143,323), Bush-lane House, Cannon-street, E.C. Registered March 18. To carry on business of mechanical engineers, manufacturers of implements and other machinery and utensils, brass founders, metal workers, builders, electrical engineers, carriers, merchants. Nominal capital, £1,000 in 1,000 £1 shares.

W. D. PEATTIE & Co., LTD. (143,353). Registered March 21. To carry on business of builders, contractors, decorators, merchants, dealers in sand, stone, lime, bricks, timber, hardware, and other building requisites, carriers, house agents, valuers, surveyors, sanitary, electrical lighting, water and general engineers. Nominal capital, £500 in 500 £1 shares.

MARCHBANK, BAINBRIDGE, & Co. (MIDDLESBROUGH), LTD. (143,368). Registered March 23. To acquire, take over, and carry on business of coal merchants and colliery owners carried on at Middlesbrough as Marchbank, Bainbridge, & Co., colliery and quarry proprietors, iron, steel, and general metal and mineral merchants, dealers in sand, stone, lime, slate, gravel and general builders requisites, timber merchants, haulage contractors, etc. Nominal capital, £2,000 in 2,000 £1 shares.

THE BUILDING TRADE.

TECHNICAL INSTRUCTION IN BUILDING.

MR. J. LEASK MANSON B.Sc.Eng., (Lond.), recently read an excellent paper on "The Future of Technical Instruction in Building" at the Municipal Technical School, Leicester, which was fully illustrated by diagrams which we regret not to have space to give. In the course of his remarks he pointed out the deficiencies which now exist. We are heartily in agreement with all he said, more especially with the passages which we have italicised.

"Let me deal with a series of facts which are more or less interdependent," he said, "but which, owing to their ramifications and the acute personal feelings which their discussion generally arouses, will require me to use (in a mixed audience like this) all the tact and discretion of which I am capable. I refer now to the co-operation which in the interests of building education should exist amongst employees, employers, architects, and building teachers.

Dealing first with the attitude towards technical education of those employed in the various building trades, we come into contact with many facts which to us as teachers are most disconcerting and a few which are encouraging.

Generally speaking, what we know as the "skilled trades" in building are almost entirely comprehended in the various trade unions, hence we may consider first the official attitude of these unions, and secondly the average attitude of the individual workman.

As one who has been actively associated with a trade union, and who is a strong believer in their necessity and in the undoubted benefits which accrue to their members, it has been a keen disappointment to find so few and such grudging references to the value and need of technical education for the craftsman.

We may search trade union literature in vain for any official discussion of the value of education to the worker, which includes a serious and considered reference to technical education. Almost without exception the unions show no interest in craft improvement, restricting themselves entirely to the wage question, workshop conditions, medical and unemployed benefit, and political agitation.

These are all undoubtedly important things, but I think it is a disaster, both to themselves and to the nation, that they have almost entirely failed to realise that in education, and in technical education in particular, they might find a mighty lever to raise the status of the British workman, not only financially, but also as a craftsman and as a citizen.

The argument is usually advanced that the "bread-and-butter questions" absorb all their energies, and that they are "at war" with the employers; but such a plea is no more justified than is the ill-considered and cheese-paring policy now being followed by the Government and by many education authorities regarding technical education throughout the country during the present great crisis. If war brings any benefits at all, it ought at least to drive away our sluggishness and stimulate us to sharpen up the tools of peace as well as the weapons of war.

Amongst the individual craftsmen the tale is much the same. All of us could relate instances from our own experiences where young and promising students have been so ridiculed and harassed in the shop about their attendance at the technical school that they have fallen away never to return. This ought not to be.

The grinding conditions of modern competition and the rapid growth in strength of the trade unions furnish the masters with their excuse as to why they do not take more interest in technical instruction in building.

In addition, we frequently hear the plea advanced that, since an apprentice usually leaves at the close of his apprenticeship, the master cannot be expected to put himself out of the way concerning the apprentice's instruction for the future as a craftsman beyond what he can pick up in the shop and on the buildings. This and a disbelief in the value of technical instruction work mightily against us.

Fortunately, there are some shining exceptions amongst both masters and men. I could give you extracts from Mr. Smail's Report, in which local branches of various building trades unions offered ready support to new building classes which it was proposed to institute at that time. On many technical and advisory committees throughout the country union representatives have sat alongside the masters and have worked with them in the common cause. At my own school in Leicester the Joiners' Society two or three years ago offered, on their own initiative, to provide special prices for students in the Building Trades Department who were joiners. During the last three months it has been my privilege to sit on the Building Trades Advisory Committee of the City and Guilds, under the chairmanship of Mr. Holliday, of Messrs. Holliday & Greenwood, London, who represents on that Committee the Institute of Builders, and who has for ten years been Chairman of the Governors of the Brixton School of Building, and I am sure that no one could wish for a more sympathetic, broad-minded, and enthusiastic chairman for such a Committee.

Considering next the attitude of the architects to the general technical instruction of those entering building, as distinct from the special training of the architect, there is, I think, a general tendency to give way to a professional pride, which looks askance at the trade-student who studies Building Construction in order to widen his outlook, or at the architectural student who attends trade classes in order to improve his grip upon the details of construction.

Architects are not alone in being at fault through professional pride, but at a time when the architectural profession is claiming more and more to control even the most minute details of construction, and is robbing the craftsman of his few remaining opportunities for showing some initiative, it would be disastrous were they to cut themselves entirely away from the rest of the industry and to hold themselves as a class apart. Their artistic training is, of course, something apart from the training required by the average craftsman, but it is at least shared—or ought to be—by the plasterer, the stonemason, and the decorator; and if their complaint now is that workmen are lacking in the architectural sense and in the personal initiative which characterised the workmen of days now past, then let them realise that both the cause and the cure rests in part with them. The status of the building industry can only be restored if all take their due share of the responsibility of the training and preparation of the coming generations of craftsmen, builders, and architects.

I propose to discuss in the remaining portion of this paper a series of problems of particular interest to the building teacher, and my opinion of his merits and his powers of solving these problems will be indirectly stated there, but I would like to say here just a word or two concerning his general attitude towards co-operation with the sections of the industry which I have already mentioned.

Generally speaking, he is willing and anxious to co-operate, but there are times when perhaps he remembers that in his young and enthusiastic days he sought the aid of the local people and they responded enthusiastically, and possibly formed a building advisory committee, which committee either found an early grave or else grew up so vigorously as to eclipse entirely his own little shining light.

He now says that such co-operation can only be expected when everybody is perfect, forgetting that when such times come the need for advisory committees will apparently not exist.

Generally speaking, however, the building teacher is a man of great faith. His difficulties are many, his encouragements few. He is content with the brief words of gratitude that he occasionally receives from a considerate student, remembering—like a true philosopher—that not many of his students are able to analyse their careers and rightly assess the undoubted benefits which they receive from conscientious technical instruction.

One of the most gratifying features about the Bournemouth Vacation Course, and one which—speaking quite frankly—was probably a great surprise to all concerned, was the hearty and unlimited spirit of co-operation which was shown and which immensely increased the efficiency of the work. Both parties, of course, sent out patrols on the first encounter, and a few shots were exchanged, but the serious purpose and the obvious anxiety evident on both sides to work for the common good removed all further doubts, and the work proceeded with delightful smoothness and regularity to the end.

Without further elaboration, I think I may take it as agreed that before any really complete advance can be made in the matter of technical education in building there must be hearty and ungrudging co-operation between all concerned, mutual suspicions must be removed by generous and frank discussion, and finally each party must try to enter as fully as possible into the difficulties to be faced by the others.

Turning next to some problems with which the building teacher himself has to grapple, you will not misunderstand me if I say that I would have preferred to have devoted my paper entirely to these matters, excepting that I think it is as well that we should realise that there are very important factors outside the schools which have exercised great, and are likely to exercise still greater, influence over our work in the future if progress is to be made.

I have already mentioned that one of the facts which we must carefully consider is that in the last twenty or thirty years improvements in trade practice and in methods of construction that have sprung up within the industry itself have been few and of minor importance. So far as my knowledge carries me such things as wood-working machinery, improvements in workshop control, reinforced concrete, steel construction, methods of waterproofing, of lighting and heating, have originated in the mind of the specialist and the engineer much more than within the industry itself, which has rather accepted these things at first, as bread from heaven—with some initial scepticism—and with the ever-present feeling that they represent the last word in these matters and that nobody but a crank would try and devise further improvements.

My reading of the situation may be wrong, but I feel that in the past the teacher of building has devoted himself too exclusively to constructive detail and too little to those basic principles of physical knowledge from which—if widely disseminated amongst all engaged in the industry—might have sprung inventions and reforms such as have revolutionised engineering during the last twenty years. In addition, the artistic aspect of the crafts should have received more attention.

The drift of my argument will be obvious to most of you, and I need not labour the point further. The recent emphasis upon the need for special instruction for the building student in geometry, mathematics, and science, as applied to building problems is, I think, an advance from which much may be expected in the future. The scheme of work which was studied at Bournemouth was entirely based upon these ideas, and while—for reasons which I cannot enter into here—the work was only discussed so far as it affected the first-year classes of a Senior Course—corresponding to your third year—the general ideas and methods of attack were sufficiently clear to enable the scheme to be applied to later years. But it is necessary to utter some warnings. No

man, or group of men, however brilliant or capable, could devise a scheme at the outset of a new movement which could be applied universally without readjustment or alteration. And, while I think it is thoroughly sound to obtain first a good grip upon some such complete scheme—whether it is issued by the Board of Education, propounded at a Vacation Course, or devised by some body like the U.L.C.I., is to some extent a matter of indifference—its chief value lies in its power to enable a man to test new ideas, to discard that which is useless, and to incorporate everything that makes for real progress.

But let us not deceive ourselves. It is not an easy task to devise special classes for building students in mathematics and science, and to revise the other subjects so as to fit into the whole scheme. It is easy to lift chunks from ancient syllabuses on Practical Mathematics, Elementary Physics, Mechanics, Chemistry, and Strength of Materials, but that is not sufficient.

It is essential that the whole scheme be sound from an educational point of view, and that there should be clear ideas as to the preliminary training of the student before he reaches the building teacher, so that he should know how to link on his work to that already done by the student; utilising the student's present fund of knowledge, intensifying the glow of his present interests, and welding the new knowledge to the old. In addition, in arranging the work in the building classes there must be no patchwork, but each item treated must go—in a very definite way—to complete the whole structure of the course. These are a few of the problems which were dealt with at Bournemouth.

The scheme of classes there discussed was, in outline at least, very similar to that now issued by the U.L.C.I., so that I need not detail it here, but I would like to deal now with a matter which has so far not received much consideration—that is the position occupied by the trade classes under such a scheme.

The general suggestion is that in the early years—your third and fourth years—professional and trade students should combine to take a group course separating later into special trade and professional classes. With certain reservations, this, I think, is an excellent arrangement, particularly in the light of the present situation—*i.e.*, that with a small and apparently decreasing attendance we have attempted to keep up a large number of separate trade classes. This cannot go on indefinitely.

It is my firm conviction that many of our trade syllabuses are on wrong lines; they are too ambitious and too comprehensive. If I were not likely to be misunderstood, I would say that we try and introduce too much pseudo-science, which is of little value to the trade student as such. A trade class is not the place to teach elementary science, but rather affords an opportunity of showing the application of science to the trade. There is room for much reform here."

The lecturer concluded by saying:—

"Above all else, the building teacher of the future must be a big-souled man; his outlook must not be limited by bricks and mortar or by examination results, but he must be able to feel that he is engaged in helping forward one of the most ancient activities of man, which has, as history shows, risen to sublime heights as a visible expression of the nobility of nations now dead; and which, let us hope, will rise to even greater heights, as the national expression of the purified and ennobled British Empire which we all pray may emerge from the tremendous struggle now proceeding."

We have omitted much of a thoughtful and useful paper, but we can be of most service in emphasising our conviction that reform can only arise through the enlargement of the horizon of the trade unionist by the recognition of other factors than wages or self-interest, and by the architect's recognition of the worker as a co-operator and not a simple mechanical executant of orders. The one way is more difficult initially than the other, but only by its means can progress in art be effected. As it is we frequently hear the methods of the past extolled, while those who appreciate these merits do not appear to try to produce an amelioration of existing conditions.

NEW GOVERNMENT CONTRACTS.

War Office.

Nails (Term Contracts).—Guest, Keen, & Nettlefolds, Ltd., Castle Works, Rogerstone, Newport, Mon.; Rylands Bros., Ltd., Warrington.

Paint.—Blundell, Spence, & Co., Ltd., Beverley-road, Hull; Burrell & Co., Ltd., West Ferry-road, Millwall, E.; Colthurst & Harding, Ltd., Alpha Wharf, Millwall, E.; Cowan Bros., Ltd., Magnet Works, Marsh Gate-lane, Stratford, E.; J. S. Craig & Co., Ltd., 97, Portman-street, Glasgow; J. Foulger & Sons, Seven Star-alley, St. George-street, E.; Golden Valley Ochre and Oxide Company, Ltd., Wick, Bristol; J. Hare & Co., Temple-gate, Bristol.

Paint, etc. (Term Contracts).—L. Berger & Sons, Ltd., Homerton, N.E.; Brimsdown Lead Company, Ltd., Brimsdown, Middlesex; Colthurst & Harding, Ltd., Temple-gate, Bristol; Mersey White Lead Company, Ltd., Warrington; Rowe Bros. & Co., Ltd., Old Quay Lead Works, Runcorn; Walkers, Parker, & Co., Ltd., Lead Works, Chester.

Piping and Fittings, Metal.—Scottish Tube Company, Ltd., Clydesdale Tube Works, Rutherglen, Glasgow, etc.; Stewarts & Lloyds, Ltd., Dalmarnock Bridge, Glasgow.

Pumps, etc.—Hayward-Tyler & Co., Ltd., 99, Queen Victoria-street, E.C.; Ingersoll-Rand Company, Sale, Manchester; Lee, Howl, & Co., Tipton; Merryweather & Sons, Ltd., Greenwich-road, S.E.; Pulsometer Engineering Company, Ltd., Nine Elms Ironworks, Reading.

Tools.—Alldays & Onions Pneumatic Engineering Company, Ltd., Birmingham; Armstrong, Stevens, & Son, Ltd., Walsall-road, Willenhall; A. Ashton & Sons, Ltd., Burnt Tree Works, Sheffield; H. Barnard, Ploughlane, Homerton, N.E.; J. Bedford & Sons, Ltd., Ball-street, Sheffield; W. G. Birkinshaw & Co., Reliance Works, Wolverhampton; B. Bladen & Son, Halesowen, Birmingham; C. H. Blakeley & Sons, 165, Napier-street, Sheffield; F. J. Brindley & Sons, River-lane, Sheffield; Brooks & Cooper, Mousehole Forge, Sheffield; J. Brooks (Lye), Ltd., Brook-street, Lye, Stourbridge; Carr, Wild. & Co., Ltd., Egerton-street, Sheffield; C. Churchill & Co., Ltd., 9/15, Leonard-street, Finsbury, E.C.; Drabble & Sanderson, Morpeth-street, Sheffield; J. Evans & Sons, Ltd., Highfield Tool Works, Heeley, Sheffield; B. Fiddian & Son, Stourbridge; W. Gaythwaite, The Forges, Cleator, Cumberland; Hardy Patent Pick Company, Ltd., Heeley, Sheffield; J. Hill & Sons, Mounting Works, Lye, Stourbridge; W. Hunt & Sons (The Brades), Ltd., Brades Steel Works, Birmingham; Lawson & Heaton, Ltd., 315, Long-acre, Nechells, Birmingham; Lockwood Bros., Ltd., Spital-hill, Sheffield; E. & W. Lucas, Ltd., Dronfield Forge and Shovel Works, Sheffield; M. Mellor & Sons, Ltd., Lee Works, Nottingham; Midland Manufacturing Company, Celtic Works, Sheffield; W. Mills & Co., Woodhouse Mill, Sheffield; Motor Stamping Company, Long-acre, Aston, Birmingham; Mountfor, Phillips, & Co., Ltd., Thoms Works, Brierley-hill; I. Nash & Sons, Ltd., Wollaston Mills; Stourbridge; J. Peace & Co., Ltd., Rutland-road, Sheffield; S. Peace & Sons, Ltd., Wellmeadow-street, Sheffield; W. K. & C. Peace, Ltd., Rutland-road, Sheffield; J. Perks & Sons, Ltd., Monmore Green Works, Wolverhampton; J. W. & H. Platt, Byron Works, Bouverie-road, Harrow; G. Plumpton, Ltd., Albion Works, Warrington; Portable Furnace and Patents Company, Ltd., Carrington, Nottingham; J. Powell, Ltd., Oxford-street, Birmingham; Ruston, Proctor, & Co., Ltd., Lincoln; Sanderson Bros. & Newbould, Ltd., Newhall-road, Sheffield; Sheffield Hack Saw Company, Bridge-street, Sheffield; T. Smith & Sons (Saltley), Ltd., Saltley Mill, Birmingham; Spear & Jackson, Ltd., Aetna Works, Savile-street East, Sheffield; J. H. Swift & Sons, Ltd., Penistone-road, Sheffield; Swindell & Co., Ltd., Withymoor Works, Netherton, Dudley; Taylor Bros., Adelaide Saw Works, Sheffield; C. Thomas & Co., Ltd., Aston Manor, Birmingham; L. Thomas & Co., Coaley, Dursley, Glos.; G. Thornton & Co., Ltd., Tividale, Tinton; J. Tyzack & Son, Ltd., Meersbrook Works, Valley-road, Heeley, Sheffield; W. Tyzack, Sons, & Turner, Ltd., Little London Works, Sheffield; S. Vaughan, Ltd., Henry-street, West Bromwich; Ward & Payne, Limbrick Works, Hillsborough, Sheffield; C. Whitehouse & Sons, Ltd., Cannock; J. Wilkinson, jun. (Dudley), Ltd., Freehodies Works, Dudley; G. Wolfe & Sons, Ltd., Bathgate; F. Wood & Sons, Thorpe Works, Henry-street, Sheffield; Wynn, Timmins, & Co., Ltd., Commercial-street, Birmingham.

PROPOSED NEW BUILDINGS AND OTHER WORKS.*

IN these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works, at the time of publication, have been actually commenced. Abbreviations:—T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; L.G.B. for Local Government Board; B.G. for Board of Guardians; L.C.C. for London County Council; B.C. for Borough Council; and P.C. for Parish Council.

Argentina.—The *Boletin Oficial* (Buenos Aires) of February 10 publishes a Decree approving a project prepared by the "Ministerio de Relaciones Exteriores y Culto" relative to the construction of a hospital in Posadas (Misiones) at an estimated cost of 346,681 pesos currency (about £30,300).

Bexhill.—Plans passed by the T.C.:—Detached house, Terminus-avenue (Mr. G. E. Maynard), Mr. H. P. Farnfield; detached house, Cooden-drive (Mr. G. E. Maynard), Mr. P. Escreet; pair of cottages, Cooden Sea-road (Messrs. Stevens & Son), Miss G. Kershaw; additions to "Deema," Sea-road (Mr. G. H. Gray), Mrs. L. M. Williams; detached house in Westcliff-drive (Messrs. Tubbs, Messer, & Poulter), Rev. F. J. Browell; garage at "The Cornerways," Cooden Sea-road (Messrs. Tubbs, Messer, & Poulter), Mr. H. Turner; coal store, 66, Wickham-avenue (Mr. J. B. Wall), Mrs. E. C. Walker; hand lift at rear of 12, Clifford-road (Messrs Upfield & Sons), Messrs Gaby & Stapylton-Smith. Temporary buildings:—Tool shed, Little Common-road, for Mrs. L. B. Escombe; and a motor house, 72, Station-road, for Mr. H. W. H. Palmer.

Buckingham.—At a recent meeting of the R.D.C. the Clerk produced the draft of an agreement between Mr. Jones and the Chairman in reference to a portion of a field they had purchased for the proposed new isolation hospital at Gawcott. The matter was referred to the Committee.

Cornforth.—The Sedgefield B.G. has passed a plan for an additional classroom at the Church Hall, Cornforth.

Coventry.—Plans approved by the General Works Committee of the City Council:—Four houses (amended), Kingsland-avenue, for Mr. A. Barrett; hutment, Stoney Stanton-road, for the Young Men's Christian Association; one house, Rochester-road, for Mr. T. F. Bird; two houses, Binley-road, for Mr. C. Blockley; additions to premises, Far Gosford-street, for Messrs. J. Perkins & Co.; laboratory, Cash's-lane, for the Standard Motor Company, Ltd.; ambulance-room, etc., Edgewick Works, Canal-road, for Mr. Alfred Herbert, Ltd.; store shed, Upper York-street, for Mr. Alfred Herbert, Ltd.; carpenter's shop, etc., Cash's-lane, for the Standard Motor Company, Ltd.; six houses, Queen Mary's-road, for Mr. J. Clifton; factory Hawkins-road, for the Metallurgical Company; two motor houses, Churchill-avenue, for Mr. J. Whetstone; four houses, Collingwood-road, for Mr. J. G. Hewlett; building line, etc., Stoney Stanton-road, for Mr. Alfred Herbert, Ltd.; iron store, Harnall-lane, for Messrs. Bretts' Stamping Company.

Dundee.—At a Dean of Guild Court recently Mr. James Williamson Masson, Needless-road, applied for permission to convert the first and second floors of his property in County-place into two dwelling-houses, and to make improvements on the ground floor of the licensed premises known as the Burns Tavern, and to erect a new façade to the ground floor. The plans were passed.

Fulham.—We understand that Mr. Oswald Stoll has purchased a portion of the site at Fulham on which dwellings for disabled soldiers are to be erected, and has made a gift of the land to the fund.

Glasgow.—The following linings have been granted by Glasgow Dean of Guild Court:—Mr. James Johnston, C.A., 190, West George-street, Glasgow, and others, to erect a recreation hall and rooms in Craigmont-drive, Maryhill; the Clyde Structural Iron Company, Ltd., Clydeside Iron Works, Scotstoun, to erect buildings in South-street, Scotstoun; the Cassel Cyanide Company, Ltd., 19, St. Vincent-street, Glasgow, to make extensions to their still and roaster houses in the works in Shuna-street, Glasgow; Messrs. John Broadfoot & Sons, Ltd., Inchholm Works, James-street, Whiteinch, to erect a workshop there; Scottish National Council of Young Men's Christian Associations, 118A, George-street, Edinburgh, to erect a temporary institute at the corner of London-road and Summer-street, Glasgow.

Goole.—The U.D.C. has approved of a plan for a new power station at Rawcliffe

Holmfirth.—A L.G.B. inquiry has been held in connection with the U.D.C.'s proposed scheme for working-class dwellings.

India.—The waterworks scheme of the Suri Municipality has received the administrative approval of Government.

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* See also our list of Competitions, Contracts, etc., on page 272.

London.—A scheme for the improvement of the Brady-street area has been prepared by the Bethnal Green B.C.

Middlesbrough.—At a recent meeting of the Middlesbrough Plans Committee plans were approved of a new internal arcade on the premises of Messrs. Dickson & Benson, Ltd., in Linthorpe-road. Mr. James Forbes, architect, submitted a set of plans for the Britannic Shoe Company, who are about to open premises in Linthorpe-road.

New Zealand.—With reference to the raising of a loan of £115,000 for the purpose of carrying out certain public works at Auckland, over £50,000 will be spent on the Council's market scheme undertaking. The City Engineer has prepared a report in regard to city improvement schemes and other desirable works which should claim the attention of the Council during the next few years.

Renfrewshire.—A L.G.B. inquiry has been held relating to an application by the Upper District Committee of Renfrewshire for authority to prepare a town-planning scheme for the parishes of Cathcart, Eastwood, and Mearns, including Clarkston, Busby, Giffnock, Thornliebank, and Newton-Mearns.

Rugby.—The U.D.C. has approved the following plans:—Mr. W. Wiggins, for additions to 45, Hillmorton-road; Messrs. G. W. & F. Varney, for three houses on Park-road.

Sedgley.—The U.D.C. has approved the plan of proposed bungalow abutting on Dudley-road (submitted by Colonel Nayler).

Spain.—The *Gaceta* of March 13 notifies that tenders will be opened on April 15 by the municipal authorities of Mota del Marqués (Province of Valladolid) for the construction of a new school at that town, at an estimated cost of 81,531 pesetas (about £3,260).

Stirling.—The T.C. has granted a warrant to Messrs. James Ronald & Sons, civil engineers, architects, and surveyors, to erect a garage at Weaver-row.

Wantage.—At a recent meeting of the B.G. the Surveyor's estimate for carrying out the scheme of drainage for the parish of East Hendred was received. It was resolved that the plans be forwarded to the L.G.B., and that application be made for sanction to borrow £600 to carry out the scheme after the termination of the war.

Wisbech.—The T.C. has passed plans submitted by Mr. R. W. Booth for a motor-house in Clarkson-avenue, and by Messrs. Curry, Ltd., for a shop in Norfolk-street.

York.—The Carnegie United Kingdom Trust has notified the Corporation that the Trustees are prepared to make a grant of £12,000 for the erection of a suitable library. The following plans have been approved by the Streets and Buildings Committee:—Messrs. Brown Bros. & Taylor, Ltd., shop, Peter-lane; Asiatic Petroleum Company, Ltd., oil tanks, etc., Layerthorpe Station; Mrs. Abbey, combined drainage, 30 and 32, George-street and 1 and 10, Mill-street; Mr. T. Lamb, redrainage, 3-8, Clark's-terrace, Walmgate; Tadcaster Tower Brewery Company, new scullery and outbuildings, Barrack Tavern, Fulford-road; Directors of York Opera House Company, alterations to gallery, Clifford-street; Messrs. Beckett & Co., temporary motor shed, 6, Bootham-terrace; Messrs. De Burgh Bros., combined drainage, Albemarle-road.

TRADE NEWS.

Under the direction of Mr. G. T. Bassett, A.R.I.B.A., architect, Aberystwyth, Boyle's latest patent "air-pump" ventilators have been applied at the University College of Wales, Aberystwyth.

The new National Bank, Blackrock, Co. Dublin, is being supplied with Shorland's patent Manchester stoves with descending smoke flues by Messrs. E. H. Shorland & Brother, Ltd., of Failsworth, Manchester.

We understand that the walls of a Sunday-school at Pudsey, near Leeds, built about 8 ft. below the ground level, became so saturated as to rot the dado, floor boards, and joists. These walls have since been rendered in Pudloed cement, and we hear that, although the weather has been exceptionally severe, the interior is now perfectly dry.

We are informed that the Admiralty, after conducting tests with various classes of adhesives, for the purpose of ascertaining the most suitable for the manufacture of naval aeroplane and seaplane propellers, have "approved" "Croid" (extra strength quality). "Croid" in its standard strength quality is commonly employed by cabinet-makers and others on account of its being usable in a cold state as well as on account of its tenacity. The makers of "Croid" are the Improved Liquid Glues Company, Ltd., of Great Hermitage-street, London, E. We have received a sample of "Croid" from the makers, some tests of which bear out the claims made for the material. It appears to be suitable for general use and is an easily manipulated and useful material.

RATES OF WAGES IN THE BUILDING TRADE.

THE following are the present rates of wages in the Building Trade in the principal towns of England and Wales. It must be understood that, while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur:—

——	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Masons' Labourers.	Bricklayers' Labourers.	Plasterers' Labourers.
	d.	d.	d	d.	d.	d.	d.	d.	d.	d.
Aberdare	9	—	9½	9½	—	9	8	6½	6½	6½
Accrington	10	10	9½	9½	9	9	9½	6½	6½	6½
Altrincham	9½	10	10½	10	8½	10	9	6½	7½	7
Ashton-under-Lyne	11	11	10	10½	9	10	9	6½	6½	7½
Barnsley	9½	9½	9½	9½	9	9½	8½	7½	7½	7½
Barrow-in-Furness	9½	10	9½	9½	9½	9½	9½	7	7	7
Barry	9½	9½	9½	10	—	9	8½	6½	6½	6½
Bath	8½	8½	8½	8	7½	8	7½	6	6	6
Bedford	8	8	8	8½	8	9	6½	5½	5½	6
Birkenhead	11	11	11	11½	11	11	9½	7	7	7
Birmingham	11½	11½	11½	11½	10½	11½	9½	8½	8½	8½
Bishop Auckland	9	9	9	9	10	9	7½	6	6	6½
Blackburn	10	10½	10	10	9½	10	9½	6½	7½	7½
Blackpool	10½	9½	9½	9½	8½	9½	8½	6	6	6
Bolton	10	10½	10	10½	10	10	9½	6–7	7	7
Bournemouth	8½	9	9	9	8½	9	8½	6½	6½	6½
Bradford	10	10	9½	9½	10	10	8½	7½	7½	7½
Bridgwater	6½	6½	6½	6½	6½	6½	6	4	4	4
Brighton	9	8½	8½	8½	—	8	7	6	6	6
Bristol	10½	10½	10½	10½	—	10½	9½	8	8	8
Burnley	10	10½	9½	9½	8	9½	9½	7	7	7½
Burton-on-Trent	9	9	9	9½	9	9	8½	6½	6½	6½
Bury	11	11	10	9	9½	10	9½	7	7½	7½
Cambridge	9½	9	9	9½	9½	9½	7½	6	6	6
Canterbury	8½	8	8	10	—	8½–9	7	5	5	5
Cardiff	10½	10½	10½	10½	10½	10½	9½	7½	7½	7½
Chatham	8	9	9	9	9	9	7½	6	6	6
Chelmsford	8	7½	8½	9	—	7½	6½	5	5	6½
Cheltenham	8½	8½	8½	8½	—	8½	8½	6	6	6
Chester	9½	10	10	9½	9½	9½	8½	6½	7	6½
Chesterfield	9	9	9	8	9	8½	8½	5½	5½	5½
Colchester	8	8½	8½	9	8	9	6	5½	5½	5½
Coventry	10½	11	11	10½	9½	11	10	8½	8½	9
Crewe	7½	8	7½	9	8½	8	7½	5½	5½	
Darlington	9½	10	10	10½	10	9½	8½	7	7	7
Derby	9½	9½	9	9	9	9	8	6½	6½	7
Doncaster	9½	9½	9	9½	9½	9	8	6½	6½	7½
Dudley	8½	10	10	8½	8½	8	7½	6½	6½	6½
Durham	9	9	9½	9	10	9	8½	6	6	6½
East Glam and Mon. Valleys	10	10	10	10	—	—	9	7	7	7
Exeter	8	8½	8½	8½	7½	7½	7	5½	5½	5½
Folkestone	8½	8½	8½	9	8½	8½	7–7½	6½	6½	6½
Gloucester	8	8½	8½	8	8	8½	8	5½	5½	5½
Grantham	8	8	7½	7½–8	7½–8	7	6½	5	5	5
Grays	—	10	10	—	—	9½	8½	7	7	7
Grimsby	9	9	9	9½	9	9	8½	7	7	8
Great Yarmouth	8	8	8	—	8	8	6½	5	5	—
Halifax	10	10	9½	9	9	9	8½	7	7	7
Harrogate	9½	9½	9	9	8	9½	8½	6½	6½	6½
Hartlepools	10	10½	10½	10½	10	10	9	7½	7½	8
Hastings	8½	8	8	8½	8	8	7	6½	5½	6½
Hereford	8	8	7½	8½	8	7	7	5½	5½	5½
Huddersfield	11	11	9½	9½	10	9	8½	7½	7½	7½
Hull	10½	10	10	10	10	10	9	8	8	8
Ipswich	8½	8½	8½	9	9	8½	7	5½	5½	5½
Lancaster	10	10	9	9	9	9	9	6	6	6½
Leamington Spa	9	9	9	8½	9	9	8	6	6	6
Leeds	10½	10½	10½	10½	10	10	8½	7½	7½	8
Leicester	10½	10½	10½	10½	11	10	9	8	8	8½
Lincoln	9	8½	8½	9	8½	8½	8	6	5½	6½
Liverpool	11	11	11	11	10½	11	9½	7	7	7
Llanelly	9½	9½	9½	8½	9	8½	8	5½	5½	5½
London	11½	11½	11½	11½	—	1s.	9	8	8	8
Loughborough	9	8½	8½	9	9	8½	7½	5½	5½	6½
Luton	9½	9	9	8½	9	8½	7½	6½	6½	6½
Maidstone	9	9	9	9	9	9	8	6	6	6
Manchester	11	11	11	11	10	11	9½	7½	7½	7½
Mansfield	8½	9	8½	8½	—	8½	8	6	6	—
Merthyr Tydfil	9½	9½	9½	9½	8½	9	8	6½	6½	6½
Middlesbrough	10	10½	10½	10½	10	10	8½	7½	7½	8
Newcastle-on-Tyne	11	11	11	11	10	10	9½	7½	7½	7½
Newport, Mon.	10	10	10	10	8½	10	9	7	7	7
Northampton	9	9	9	9	8½	9	8	6	6	6
Norwich	8½	8½	8½	8½	8	8½	7½	6	6	6
Nottingham	11	11	11	10½	9½	10½	9	8½	8½	9
Oldham	10½	10½	10½	10	9	10	9½	7	7	7½
Oxford	9½	9	9	9	8	9	8	6½	6½	6½
Plymouth	9*	9*	9*	9*	9	9*	8	6½*	6½*	6½*
Pontypridd	9½	9	9	9½	9	9	8	6½	6½	6½*
Portsmouth	9½	9½	9½	9½	9½	8½	7½	7	7	7
Preston	10½	10½	10	9½	9½	10	9½	6	7	7½
Reading	8½	9	9	9½	—	9	7½	6	6	6
Rochdale	10½	10½	10	10	8½	10	9	7	7	7½
Rochester	8	9	9	9	9	8½	7½	6	6	6
Rugby	9½	9½	9½	9½	8	9½	8½	6	6	6
St. Albans	9	9	9	9–10	9	9–10	8	6½	6	6½
St. Helens	9	9½	10	9½	9½	9½	9½	6	6½	6
Scarborough	9	9½	9	8½	8	9	8	7	7	7
Sheffield	10½	10†	10½	9½	10	10	9	7½	7½	7½
Shrewsbury	8½	8½	8½	9½	—	8½	7	5½	5½	5½
Southampton	8½	9½	9½	8½	—	9½	8½	6½	6½	6½
Southend-on-Sea	9	9	9	9	P'cework	9	7	6	6	7
Southport	10	10	9½	9½	9½	9½	9½	6½	7	7½
South Shields	11	11	11	11	10	8½	9½	7½	7½	7½
Stockport	11	10½	10½	10½	9½	10	9½	6½	7	7½
Stockton-on-Tees	10	10½	10½	10½	10	10	9	7½	7½	8
Stoke-on-Trent	9	9½	9	9	—	8½	8½	6	6	—
Stroud	7½	7½	7½	7½	7½	7½	7	5	5	5
Sunderland	11	11	11	10½	10	9	9½	7½	7½	7½
Swansea	9½	9½	9½	9½	8½	9	9	6½	6½	6½
Taunton	7	7	7	7	—	6	6½	4½	4½	4½
Torquay	8	8	8	8	8	8	8	6	6	7
Wakefield	9½	9½	9	9½	8½	9	8	7	7	7
Walsall	9½	9	9	9	8½	10	8	6½	6½	6½
Warrington	8½	10½	10½	10½	8½	10½	9½	6½	6½	6½
West Bromwich	10	10	10	10½	—	9	8	7	7	7
Wigan	10	10½	9½	9½	9	9½	9½	7	7	7
Windsor	9	9	9	10	—	9	—	6	6	6
Wolverhampton	9½	10½	10½	10	8	10	8	7½	7½	7½
Worcester	8½	9½	9½	9	9	9	7½	6½	6½	6½
York	9½	9½	9	9½	9½	9	8½	7	7	7

The mason's rate given is for bankers; fixers usually ½d. per hour extra.

* War bonus of 2s. per week granted. † War bonus of 3s. per week granted.

List of Competitions, Contracts, etc.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk (*) are advertised in this number: Competitions, —; Contracts, iv., vi.; Public Appointments, —; Auction Sales, xxiv. Certain conditions beyond those given in the following information are imposed in some cases, such as: the advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

*** It must be understood that the following paragraphs are printed as news, and not as advertisements; and that while every endeavour is made to ensure accuracy, we cannot be responsible for errors that *may* occur.

Contracts.

BUILDING AND PAINTING.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in.

APRIL 8.—**Enzie.**—SLATER WORK, ETC.—For the slater work of new cattle courts to be erected at Burnside of Dipple and Dipple, and for the mason, carpenter, and slater work of new cattle court at Berrybauds, Enzie. Plans and specifications may be seen at the Estates Office, Fochabers.

* APRIL 8.—**Farnborough.**—SMALL HOUSES.—Tenders are invited for the erection of thirty small houses.

APRIL 10.—**Holbeck.**—PAINTING, ETC.—For painting the ceilings and washing the walls of the hospital for the B.G. Forms of tender of Mr. George Diment, Clerk to the Guardians, Poor Law Offices, Holbeck, Leeds.

APRIL 10.—**New Byth.**—SLATER WORKS, ETC.—For (1) mason, carpenter, and slater works for part of new offices at Roundhill (Auchnie), New Byth, and (2) mason, carpenter, slater, and plaster works for new dwelling-house at Hill of Mill of Byth (Halket), New Byth. Plans, specifications, etc., can be seen at the farms, or with Messrs. Davidson & Garden, 12, Dee-street, Aberdeen.

APRIL 11.—**Aberfan.**—ALTERATIONS.—For alterations to the Navigation Hotel, Aberfan, for the Rhondda Valley Breweries Company, Ltd. Plans may be seen and quantities obtained at the offices of the Brewery, Pontypridd. Mr. T. F. T. Jarvis, F.C.I.S., Secretary.

APRIL 11.—**Belfast.**—PAINTING.—For painting at the Throne Hospital, Belfast. Specification from the Superintendent of the Royal Victoria Hospital, Grosvenor-road.

APRIL 12.—**Selby.**—COTTAGES.—For the erection of thirty to 100 cottages on land at Selby for the U.D.C. Plans, etc., of Mr. Bruce Gray, C.E., F.R.S.(Edin.), Council-chambers, Selby.

NO DATE.—**Carnarvon.**—SCHOOLROOM.—For the proposed new schoolroom, etc., for Pendref Chapel, Carnarvon. Names to Mr. Watkin W. Jones, architect and surveyor, "Kuantan," Carnarvon.

NO DATE.—**Woodthorpe.**—HOUSE.—For the erection of a detached house at Woodthorpe, near Wakefield. Mr. W. Wrigley, A.R.I.B.A., architect, 2, King-street, Wakefield.

FURNITURE, MATERIALS, etc.

APRIL 8.—**Dundee.**—MATERIALS.—Supply to the T.C. of builders' materials. Specifications, etc., at the office of the City Engineer. Mr. Jas. Thomson, City Engineer, 91, Commercial-street, Dundee.

APRIL 10.—**Glasgow.**—MATERIALS.—Supply to the Corporation of builders' materials, etc., for the Gas Department, for six or twelve months. Specifications, etc., of Mr. Alexander Wilson, Gas Engineer, 45, John-street, Glasgow.

APRIL 11.—**Belfast.**—FITTING UP.—For fitting up operating theatre at Dufferin Hospital for Children for the B.G. Plan and specification by Messrs. Young & Mackenzie, architects and engineers, Belfast. Copies of specification, etc., of Mr. R. H. Wilson, Clerk of the Union, Clerk's Office, Union Workhouse. Deposit, 5s.

APRIL 11.—**Glasgow.**—LIME AND CEMENT, ETC.—Supply to the Corporation Tramways Department of lime and cement, and paints. Specifications, etc., of Mr. James Dalrymple, General Manager, 46, Bath-street, Glasgow.

APRIL 12.—**Lanark.**—OILS.—Supply to the District Committee of the Middle Ward of the County of Lanark of oils, grease, etc., for their Dunduff Quarry, near Blackwood. Forms of specification from the Subscriber.

APRIL 15.—**Renfrewshire.**—PAINTS, ETC.—Supply to the Renfrewshire Combination Poorhouse for three, six, or twelve months, of paints and oils. Conditions of contract, etc., of Mr. Alex. Meikle, Secretary, Parish Council Office, Houston.

ENGINEERING, IRON, AND STEEL.

APRIL 12.—**Glasgow.**—RAINWATER CONDUCTORS, ETC.—For rainwater conductors and iron drains required in connection with the extension of the municipal buildings for the Corporation. Specifications and forms of offer may be obtained from Mr. J. Lindsay, Town Clerk, City-chambers, Glasgow. Deposit, £1 1s.

APRIL 14.—**London.**—RADIATOR, ETC.—Supply to the Commissioners of His Majesty's Works, etc., of (*a*) corner radiator, check, bib, steam stop and full-way gate valves; (*b*) oil heaters (500). Forms of tender, etc., of the Controller of Supplies, H.M. Office of Works, King Charles-street, Westminster, S.W.

ROAD, SANITARY, AND WATER WORKS.

APRIL 8.—**Dorking.**—TARRED SLAG.—Supply to the U.D.C. of tarred slag, etc., for the period ending March 31, 1917. Forms of tender, etc., from Mr. William A. Clegg, Surveyor, Council Offices, Dorking.

APRIL 10.—**Pocklington.**—STONE.—Supply to the R.D.C. of best blue stone and slag for repairing roads. Forms of tender of Mr. Arthur J. Oliver, Clerk, Pocklington.

APRIL 11.—**Reigate.**—MATERIAL.—Supply to the B.C. of road materials. Forms of tender, etc., of Mr. Fred T. Clayton, Borough Surveyor, Municipal Buildings, Reigate.

APRIL 12.—**Aldershot.**—BASALT, ETC.—Supply to the U.D.C. of broken Devon, Welsh, or Clee Hill basalt or Leicester granite and slag tarmac during the six months ending September 30 next; also dehydrated tar, tar composition for tar spraying, asphalt bitumen, limestone tarpaving. Mr. D. Llewellyn Griffiths, Clerk to the Council, Municipal Buildings, Aldershot.

APRIL 15.—**Wrotham.**—FLINTS, ETC.—Supply to the U.D.C. of flints, ragstone, ironstone, and gravel. Forms of tender, etc., of Mr. F. T. Elliott, Surveyor of the Council, Borough Green.

APRIL 13.—**Linlithgow.**—TAR MACADAM.—For laying about three miles of the Cramond Bridge road with tar macadam for the C.C. Form of tender, etc., of Mr. A. M. Smith, County Road Office, Linlithgow.

APRIL 15.—**Thurnscoe.**—MATERIALS.—Supply to the U.D.C. of road materials for the year ending March 31, 1917. Forms of tender of Mr. J. Ledger Hawksworth, Clerk to the Council, Council Offices, Bolton-on-Dearne.

APRIL 17.—**East Preston.**—FLINTS.—Supply to the East Preston R.D.C. of about 3,510 cubic yds. of flints. Forms of Mr. Arthur Shelley, Clerk, Littlehampton.

APRIL 17.—**Sevenoaks.**—GRANITE, ETC.—Supply to the U.D.C. of granite or quartzite. Forms of tender of Mr. Samuel Towlson, C.E., Surveyor to the Council, Argyle-road, Sevenoaks.

APRIL 18.—**St. Neots.**—MATERIAL.—Supply to the U.D.C. of Leicestershire granite, broken Welsh or Cornish granite, slag tar macadam, fine slag. Form of tender of Mr. John Edey, Town Surveyor, Offices, Corn Exchange, St. Neots.

APRIL 24.—**Edinburgh.**—MATERIALS.—Supply to the Mid-Lothian C.C. of road materials for the year ending May 15, 1917. Schedules of quantities, etc., at the Road Office, County Buildings, Edinburgh.

NO DATE.—**Ashington.**—STABLE, ETC.—For the erection of a twelve-stalled stable, loose boxes, greengrocery warehouse, etc., for the Equitable Co-operative Society, Ltd., at Ashington. Names to Mr. Osborne Blythe, Licentiate, R.I.B.A., architect, Ashington.

Auction Sales.

* APRIL 10.—**Strode.**—Messrs. Kidwell & Son will sell by auction, at Commercial-road, a quantity of timber.

* APRIL 11.—**Southampton.**—Messrs. R. Austin & Wyatt will sell by auction at the wharf a quantity of well-seasoned, dry timber.

* APRIL 19.—Messrs. Churchill & Sim will sell by auction, at the Great Hall, Winchester House, Old Broad-street, E.C., an assortment of deals, battens, boards, timbers, etc.

* APRIL 19.—**City-road, N.**—Mr. F. G. Bowen will sell by auction on the premises the machinery, plant, and stock of a builder and contractor.

* MAY 2.—**Epsom.**—Messrs. Debenham, Tewson, and Chinnocks will sell by auction at The Mart a freehold building estate.

BUILDING MATERIAL, ETC., NEW ZEALAND.

With reference to the notice on page 868 of the *Board of Trade Journal* of December 30 last, relative to the raising of a loan of £115,000 for the purpose of carrying out certain public works at Auckland, the following particulars regarding the progress of the undertakings are taken from a newspaper extract forwarded by the Office of H.M. Trade Commissioner for New Zealand:—The Mayor of Auckland stated on December 31 last that the Council's market scheme had matured and tenders for the buildings would probably be invited in February. Over £50,000 will be spent on this undertaking. The water reticulation scheme of Grey Lynn, a suburb of Auckland, to cost £10,000, was expected to be put in hand about the end of January. A considerable amount of drainage work was done throughout the city in 1915, and a commencement has already been made on the new drainage works in the Remuera district, another suburb; the latter undertaking involves an expenditure of £30,000. The Mayor added that the City Engineer was preparing a comprehensive report in regard to city improvement schemes and other desirable works which should claim the attention of the Council during the next few years.

[Those with an asterisk (*) are advertised in this issue.]

PRICES CURRENT OF MATERIALS.

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.]

Since our last issue sheet lead has been reduced; turps and white lead increased.—ED.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

Per 1,000 Alongside, in River Thames.	£ s. d.
Best Stocks	2 0 0
Picked Stocks for Facings	2 12 0

Per 1,000, Delivered at Railway Depôt, London.

	£ s. d.		£ s. d.
Flettons	1 10 0	Best Blue Pressed Staffordshire	5 0 0
Best Fareham Red	3 12 0	Do. Bullnose	5 5 0
Best Red Pressed Ruabon Facing	5 5 0	Best Stourbridge Fire Bricks	4 15 0

GLAZED BRICKS—

Best White, Ivory, and Salt Glazed Stretchers	13 7 6	D'ble Str'tch'rs	18 17 6
		Double Headers	15 17 6
		One Side and two Ends	19 17 6
Headers	12 17 6	Two Sides and one End	20 17 6
Quoins, Bullnose and 4½ in. Flats	16 17 6	Splays and Squints	18 7 6

Second Quality £1 per 1,000 less than best.

	s. d.	
Thames Ballast	7 9	per yard, delivered.
Thames and Pit Sand	8 0	" " "
Best Washed Sand	9 0	" " "

Per ton, delivered.

	£ s. d.	£ s. d.
Best Portland Cement	2 5 0 ..	2 8 0

Do. £2 1s. alongside in 80-ton lots.
Ferrocrete 2s. 6d. per ton extra on above.
Best Ground Blue Lias Lime.... 1 5 6 at rly. depôt.
NOTE.—The cement or lime is exclusive of the ordinary charge for sacks.
Grey Stone Lime ..... 18s. 0d. per yard delivered.
Stourbridge Fireclay in s'cks 30s. 0d. per ton at rly. dpt.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	1 7
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	1 8½
Do. do. delivered on road waggons at Nine Elms Depôt	1 9½

PORTLAND STONE—

	s. d.
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Westbourne Park, G.W.R., South Lambeth, G.W.R., or Nine Elms, or L. & S.W.R. per ft. cube	2 5½
Do. do. delivered on road waggons at Pimlico Wharf or Nine Elms Depôt, per ft. cube	2 6½
White Basebed, 2d. per ft. cube extra.	

RANDOM BLOCKS—Per Ft. Cube, delivered at Rly. Depôt.

	s. d.		s. d.
Ancaster in blocks	2 0	Closeburn Red	
Beer in blocks	1 7½	Freestone	2 2
Grinshill in blocks	2 4	Red and White Mansfield Random block	2 9
Darley Dale in blocks	2 5	Yellow Magnesian Limestone do. do.	3 3

YORK STONE—*Robin Hood Quality.*
Per Ft. Cube, Delivered at Railway Depôt. s. d.
Scappled random blocks 3 4
Per Ft. Super., Delivered at Railway Depôt.
6 in. sawn two sides landings to sizes (under 40 ft. super.) 2 5
6 in. rubbed two sides ditto, ditto 2 8
3 in. sawn two sides slabs (random sizes) 1 0½
2 in. to 2½ in. sawn one side slabs (random sizes).. 0 8½
1½ in. to 2 in. ditto, ditto 0 6½

HARD YORK—
Per Ft. Cube, Delivered at Railway Depôt.
Scappled random blocks 3 0
Per Ft. Super, Delivered at Railway Depôt.
6 in. sawn two sides landing to sizes (under 40 ft. super.) 2 3
6 in. rubbed two sides ditto 2 7
3 in. sawn two sides slabs (random sizes) 1 0
2 in. self-faced random flags 0 5

TILES.

Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles or hand-made sand-faced tiles from either Broseley or Staffordshire district	2 12 6
Ornamental ditto	2 15 0
Hip and valley tiles (per dozen)	0 5 6

SLATES.

Per 1,000 of 1,200 f.o.r. London.

	£ s. d.
Best Blue Bangor slates, 20 by 10	11 16 0
First quality " "	11 10 0
" " 16 by 8	5 15 0
Best Blue Portmadoc, 20 by 10	11 13 6
First quality " "	11 3 6
" " 16 by 8	5 15 0

WOOD.

Timber prices should be confirmed, as the market is *changing daily.*

BEST BUILDING REDWOOD.
Imported sizes.

Deals:	Per standard. £ s. d.	£ s. d.
4 in. by 12 in., 4 in. by 11 in., 3 in. by 11 in., 4 in. by 9 in., and 2 in. by 11 in.	33 10 0 ..	34 10 0

WOOD (*Continued*).

BEST BUILDING REDWOOD. Per standard.

3 in. by 9 in., 2½ in. by 9 in., and 2 in. by 9 in.	32 10 0 ..	33 10 0
Battens: 2 in., 2½ in., and 3 in. by 8 in. ..... 2 in., 2½ in., and 3 in. by 7 in. ..... 2 in., 2½ in., and 3 in. by 6 in. ..... 2 in., 2½ in., and 3 in. by 5 in.	31 10 0 ..	32 10 0
Scantlings: 2 in. by 3 in., 2 in. by 3½ in., 2 in. by 4 in., 2 in. by 4½ in. .... 3 in. by 4 in., and 3 in. by 4½ in.		
Boards: 1 in., 1¼ in., and 1½ in. by 6 in. and 7 in.	0 10 0	more than
¾ in.	1 0 0	battens.
Seconds: building quality deals, battens, boards, and scantlings	1 0 0	less than best.
Best Middling Dantzic and Memel Fir Timber Logs (average specification) ..	Per load of 50 ft. cube. 10 0 0 ..	—
Seconds do. do.	9 10 0 ..	—
9 in. to 10 in. do.	8 10 0 ..	—
6 in. to 8 in. do.	8 0 0 ..	—
Stocks very limited.		
Sawn pitch pine logs (about 35 cu. ft. average)	Per load. 11 0 0 ..	12 0 0
Do. 6 in. to 10 in.	9 0 0 ..	10 0 0
Sawn Swedish Balks 4 in. by 4 in. to 6 in. by 7 in.	6 10 0 ..	7 0 0
	Per standard.	
Best Pitch Pine Deals	34 0 0 ..	35 0 0
Under 2 in. thick	0 10 0	extra.

JOINERS' WOOD.

White Sea Second Quality Red: 4 in. by 11 in.	39 0 0 ..	40 0 0
3 in. by 11 in. and 2 in. by 11 in.	38 0 0 ..	39 0 0
4 in. by 9 in.	37 0 0 ..	38 0 0
3 in. by 9 in. and 2½ in. by 9 in.	36 0 0 ..	37 0 0
9 in. by 11 in. boards	1 0 0	more than deals.
7 in. and 8 in. battens	33 0 0 ..	34 0 0
7 in. and 8 in. boards	1 0 0	more than battens.
Third quality	2 0 0	less than best.
Fourth quality	£2 to £3	less than seconds.
Archangel White Deals— Best 3 in. by 9 in. and 10 in. and 11 in.	36 0 0 ..	37 0 0
Seconds, do.	2 0 0	less than best.
U.S. Battens	30 0 0 ..	32 0 0

Prepared Floorings and Matchings, Seconds Swedish Red and equal—

	Per square actual.	
1¼ in. by 6½ in. planed and shot	1 16 0 ..	1 19 0
1¼ in. by 6½ in. planed and matched	1 16 6 ..	1 19 6
1 in. by 6½ in. planed and shot	1 9 0 ..	1 12 0
1 in. by 6½ in. planed and matched	1 9 6 ..	1 12 6
¾ in. by 6½ in. planed, matched and beaded, or V jointed	1 4 0 ..	1 6 0
1 in. by 6½ in. do.	1 10 6 ..	1 12 0
¾ in. by 6½ in. do.	1 0 0 ..	1 1 0

	Per standard.	
Columbian or Oregon Pine, best quality	42 0 0 ..	44 0 0
Yellow Pine—First, regular sizes	57 0 0	upwards.
Oddments	39 0 0	"
Seconds, regular sizes ..	43 10 0	"
Oddments	37 10 0	"
Kauri Pine—Planks per ft. cube	0 8 0 ..	—
Wainscot Oak Logs, per ft. cube	0 10 6 ..	0 12 6
Dry Wainscot Oak, per ft. super., as inch	0 1 0 ..	0 1 3
¾ in. do. no...	0 0 10 ..	0 1 0
Dry Mahogany—Honduras, Tabasco, per ft. super., as inch	0 1 0 ..	0 1 4
Selected, Figury, per ft. super., as inch	0 1 6 ..	0 2 6
Cuba Mahogany	0 1 6 ..	0 2 6
Dry Walnut, American, per super., as inch		upwards. 0 1 3
French, "Italian," Walnut..	0 1 0 ..	0 1 6
Teak, per load (Rangoon or Moulmein)	28 0 0 ..	34 0 0
Do. do. (Java)	25 0 0 ..	27 0 0
American Whitewood planks, per ft. cube	0 6 6 ..	0 7 6

METALS.

JOISTS, GIRDERS, &c.

	In London or Railway Vans, £ s. d.	delivered per ton. £ s. d.
Rolled Steel Joists, ordinary sections, basis price	20 0 0 ..	21 0 0
Plain Compound Girders, ordinary Sections	22 0 0 ..	23 0 0
Plain Compound Stanchions..	23 0 0 ..	24 10 0
Angles, Tees, and Channels, ordinary sections	20 10 0 ..	21 10 0
Flitch Plates	20 10 0 ..	21 10 0
Cast Iron Columns and Stanchions, plain ordinary patterns	13 10 0 ..	14 0 0

Turning extra.

METALS (*Continued*).

Per ton, in London.

IRON—	£ s. d.	£ s. d.
Common Bars	16 0 0 ..	—
Staffordshire Crown Bars, good merchant quality ..	16 0 0 ..	17 0 0
Staffordshire "Marked Bars"	17 10 0 ..	18 0 0
Mild Steel Bars	18 0 0 ..	18 10 0
Steel Bars, Ferro-Concrete quality, £18 basis price.		
Hoop Iron, basis price	19 10 0 ..	20 0 0
" " Galvanised	30 0 0 ..	
(*And upwards, according to size and gauge.)		
Sheet Iron Black—		
Ordinary sizes to 20 g.	19 10 0 ..	20 0 0
" " 24 g.	20 10 0 ..	21 0 0
" " 26 g.	21 10 0 ..	22 0 0
Sheet Iron, Galvanised flat, ordinary quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	30 0 0 ..	—
Ordinary sizes to 22 g. and 24 g.	30 10 0 ..	—
Ordinary sizes to 26 g.	33 0 0 ..	—
Sheet Iron, Galvanised, flat, best quality—		
Ordinary sizes to 20 g.	31 0 0 ..	—
" " 22 g. and 24 g.	31 10 0 ..	—
Ordinary sizes to 26 g.	34 10 0 ..	—
Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 8 ft. 20 g.	29 0 0 ..	—
Ordinary sizes, 22 g. & 24 g.	29 10 0 ..	—
Ordinary sizes, 26 g.	30 0 0 ..	—
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	29 10 0 ..	—
Best Soft Steel Sheets, 22 g. and 24 g.	29 15 0 ..	—
Best Soft Steel Sheets, 26 g. ..	22 10 0 ..	—
Cut Nails, 3 in. to 6 in.	21 0 0 ..	21 10 0
(Under 3 in., usual trade extras.)		
Galvanised prices are nominal under the present exceptional conditions.		

LEAD, &c.

Delivered in London.

LEAD—Sheet, English, 4 lb. and up	£ s. d.	
	41 10 0 ..	—
Pipe in coils	42 0 0 ..	—
Soil pipe	45 0 0 ..	—
Compo pipe	45 0 0 ..	—
NOTE—Country delivery 20s. per ton extra; lots under 5 cwt. 1s. per cwt. extra.		
COPPER—		
Strong Sheet ..... per lb.	0 1 5 ..	—
Thin " ..... "	0 1 6 ..	—
Copper nails ..... "	0 1 5 ..	—
Copper wire ..... "	0 1 5 ..	—
BRASS—		
Strong Sheet ..... "	0 1 3 ..	—
Thin " ..... "	0 1 4 ..	—
TIN—English Ingots .. "	0 1 10 ..	—
SOLDER—Plumbers' .. "	0 0 11 ..	—
Tinmen's ..... "	0 1 2 ..	—
Blowpipe ..... "	0 1 4 ..	—

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES AND IN SQUARES IN ORDINARY SIZES.

	Per Ft.		Per Ft.
15 oz. thirds	5½d.	32 oz. thirds	8½d.
21 oz. thirds	6½d.	" fourths	7½d.
" fourths	5½d.	Fluted Sheet, 15 oz.	5½d.
26 oz. thirds	7d.	" 21 oz.	6½d.
" fourths.....	6½d.		

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES. Per Ft.

¼ Rolled plate	4d.
⅜ Rough rolled and rough cast plate	4½d.
½ Rough rolled and rough cast plate	4½d.
Figured Rolled, Oxford Rolled, Oceanic, Arctic Muffled, and Rolled Cathedral, white..	5d.
Ditto, tinted	6½d.
Rolled Sheet	4½d.

OILS, &c.

		£ s. d
Raw Linseed Oil in pipes	per gallon	0 3 6
" " " in barrels	"	0 3 7
" " " in drums	"	0 3 10
Boiled " " in barrels	"	0 3 9
" " " in drums	"	0 4 1
Turpentine in barrels	"	0 4 3
" in drums	"	0 4 6
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		54 0 0
Red Lead, Dry	per ton	56 0 0
Best Linseed Oil Putty	per cwt.	0 11 0
Stockholm Tar	per barrel	1 12 0
GENUINE WHITE LEAD PAINT— "Blackfriars," "Nine Elms," "Park," and other best brands (in 14 lb. tins), not less than 5 cwt. lots	per ton delivered	66 0 0

VARNISHES, &c.

Per gallon.

	£ s. d.
Fine Pale Oak Varnish	0 8 0
Pale Copal Oak	0 10 6
Superfine Pale Elastic Oak	0 12 6
Fine Extra Hard Church Oak	0 10 0
Superfine Hard-drying Oak, for seats of Churches	0 14 6
Fine Elastic Carriage	0 12 9
Superfine Pale Elastic Carriage	0 16 0
Fine Pale Maple	0 10 0
Finest Pale Durable Copal	0 18 6
Extra Pale French Oil	1 1 0
Eggshell Flatting Varnish	0 18 0
White Pale Enamel	1 4 0
Extra Pale Paper	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 8 0
Berlin Black	0 16 0
Knotting	0 10 0
French and Brush Polish	0 10 0

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 2 *p.m. on Wednesday.*

* Denotes *accepted.* † Denotes *provisionally accepted.*

ASPATRIA (Cumberland).—For additions to the butcher's department of the Aspatria Industrial Co-operative Society, Ltd. Messrs. W. G. Scott & Co., architects and surveyors, Workington :—

Builders: Davidson & Son, Aspatria	£150	0	0
Joiner: R. Bragg, Workington	108	11	5
Plasterer: T. Kirk, Maryport	49	5	10
Slater: C. Burrow, Workington	25	11	7
Plumber: G. Goodhall, Aspatria	12	16	8
Painter: G. Goodhall, Aspatria	8	5	0

LONDON.—Accepted by the Asylums Committee of the London County Council for the supply of stores, etc. :—

Painters' Materials.—All Asylums.—Craig & Rose, Ltd.; T. & W. Farmiloe, Ltd.

Varnishes.—All Asylums.—R. Kearsley & Co.; Mander Brothers; L. Berger & Sons, Ltd.; G. Hadfield.

Lead, etc.—All Asylums.—J. Chater & Sons.

Glass.—All Asylums.—J. Chater & Sons.

Builders' Materials.—Banstead.—Wm. Whiteway & Co.; J. H. Turner & Lisney, Ltd.; Associated Portland Cement Manufacturers (1900), Ltd.; J. Knowles & Co. (London), Ltd. Bexley.—Doulton & Co., Ltd.; Erith & Co., Ltd.; Wm. Whiteway & Co.; Associated Portland Cement Manufacturers (1900), Ltd.; J. Knowles & Co. (London), Ltd. Cane-hill.—W. J. Copper. Claybury.—Young & Son; Erith & Co., Ltd.; J. H. Turner & Lisney, Ltd.; Doulton & Co., Ltd.; Wm. Whiteway & Co.; J. Knowles & Co. (London), Ltd. Colney Hatch.—Young & Son; Erith & Co., Ltd.; Wm. Whiteway & Co.; B. Finch & Co., Ltd.; A. Eames; J. Knowles & Co. (London), Ltd.; H. F. Brooks. Hanwell.—H. S. Timpson; F. & C. Macklin; Erith & Co., Ltd.; Wm. Whiteway & Co.; Young & Son; J. Knowles & Co. (London), Ltd. Institutions on Horton Estate.—Wm. Whiteway & Co.; J. Tylor & Sons, Ltd.; B. Finch & Co., Ltd.; E. Longhurst & Sons; Young & Sons; Doulton & Co. Ltd.; J. Knowles & Co. (London), Ltd.

Timber.—Bexley, Cane-hill, Claybury, Colney Hatch, Hanwell, and Institutions on Horton Estate.—King & Scarborough; Ingram, Perkins, & Co.

Barrows.—All Asylums.—Palmer's Travelling Cradle and Scaffold Company.

MADELEY (Salop).—For making necessary alterations at the Atcham Institution, for the Board of Guardians :—

Lloyd & Sons, Ironbridge* £49 15 6

OXFORD. For annual cleaning, painting, etc., at the Ratcliffe Infirmary and County Hospital, Oxford :—

G. Longhurst & Co., 213, Cowley-road, Oxford* £295

MAIDSTONE.—Accepted by the Town Council for the supply of road materials :—

Ragstone—Tovil Flat, 5s. 9d. per yard; Farleigh-hill, 6s. per yard; and Stocked-lane, 5s. 9d. per yard—Constable, Hart, & Co. Fair Meadow, 7s. per yard; Queen's-road, 7s. per yard; and Hermitage-lane, 7s. per yard—Hudson's, Ltd. Aylesford flints, 4s. 6d. per cubic yard; and Aylesford gravel, 3s. 6d. per cubic yard—S. Wagon & Co., Ltd. Fine tar concrete, 17s. 6d. per cubic yard; coarse ditto, 15s. 6d. per cubic yard; tarred ragstone macadam, at works, 13s. 6d. per cubic yard; 1 mile, 14s. 9d. per cubic yard; 2 miles, 16s. per cubic yard; 4-in. ragstone setts, 18s. 6d. per ton; 12-in. by 6-in. rag kerb, 11d. per ft. run—W. H. Bensted & Son.

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N.B.—Illustrations of the First Premiated Design in any important architectural competition will always be accepted for publication by the Editor, whether they have been formally asked for or not.

PATENTS.

APPLICATIONS PUBLISHED.*

11,878 of 1915.—Luigi Sarzotto: Portable pavilions and the like.

14,080 of 1915.—James Dowson Jackson: Continuous flow water heater, principally for domestic purposes.

14,501 of 1915.—Martin McDonald: Door knobs.

15,195 of 1915.—Maurycy Ignacy Poznanski: Processes for the manufacture of artificial stone slabs.

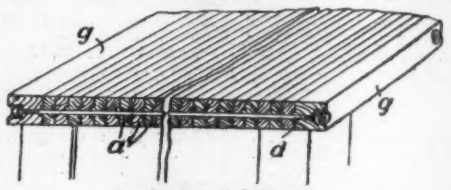
17,440 of 1915.—Milton Olin Spicknall: Slide rules.

17,739 of 1915.—Alliott Verdon Roe: Clip for holding covers and the like.

SELECTED PATENT.

21,988 of 1914.—William Robert Walker: Preventing warping of woodwork.

This relates to means for preventing warping due to heat, in which table-tops, drawer fronts, and other woodwork articles in bakeries, etc., are constructed of a series of long narrow pieces of wood with interengaging tongues and grooves



21,988 of 1914.

held together by transverse bolts with nuts or other tightening means. In the table top the pieces of wood *a* have right-angled tongues and grooves, and the tightening nuts on the bolts *d* are sunk in recesses in the side-pieces *g*. The depth of the grooves may be greater than that of the tongues, and the tongues and the grooves may be tapered in cross-section.

* All these applications are in the stage in which opposition to the grant of Patents upon them can be made.

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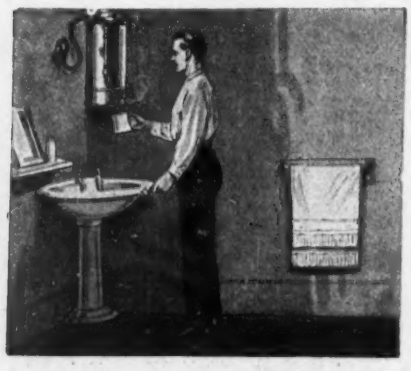

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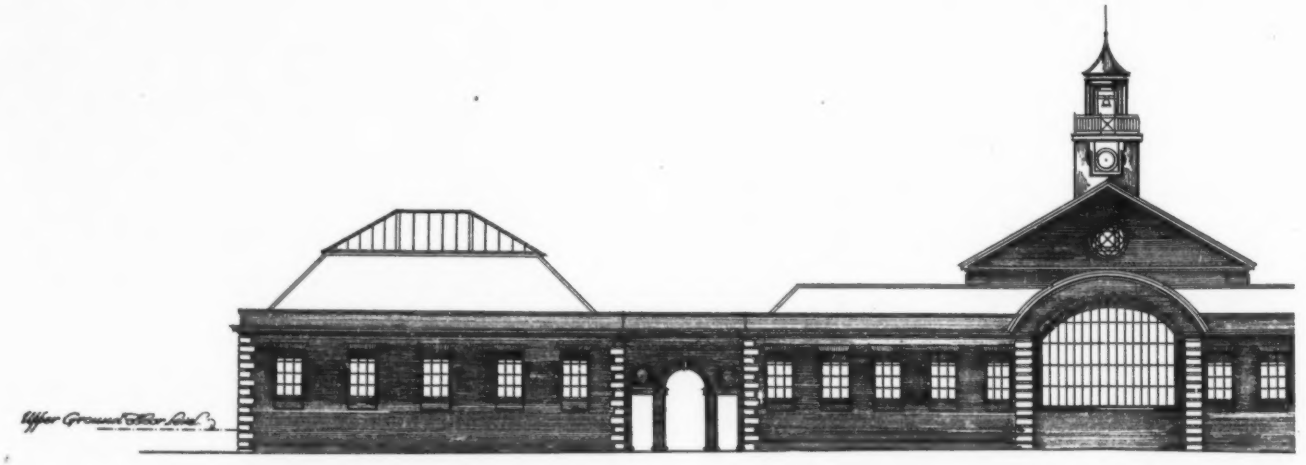
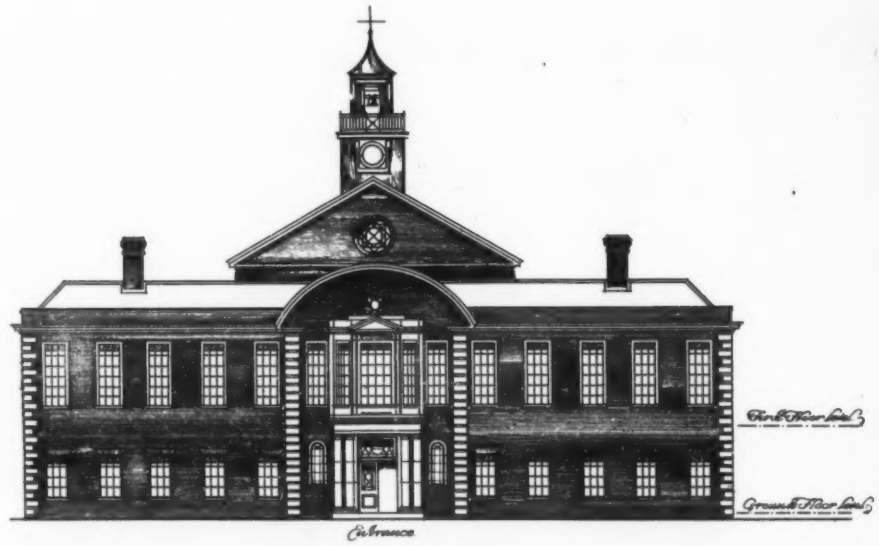
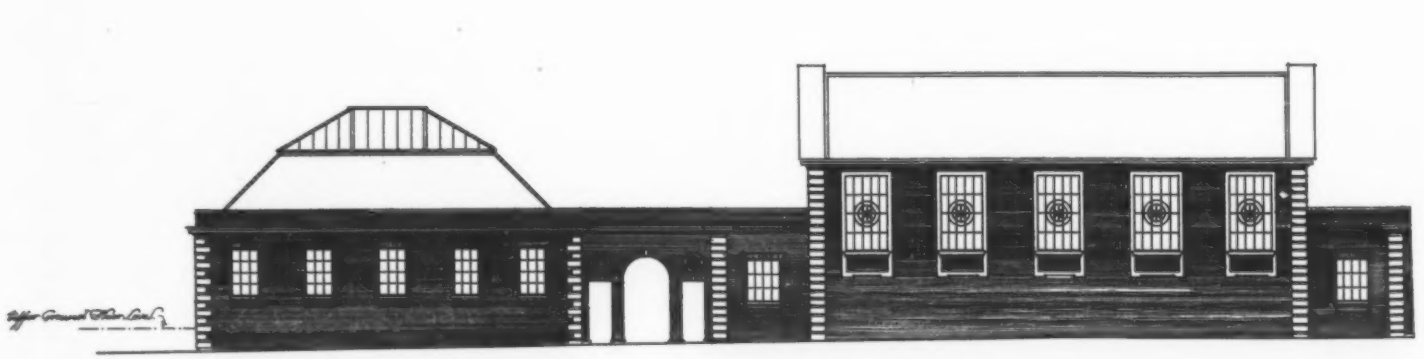


Back Elevation.



The Front Elevation

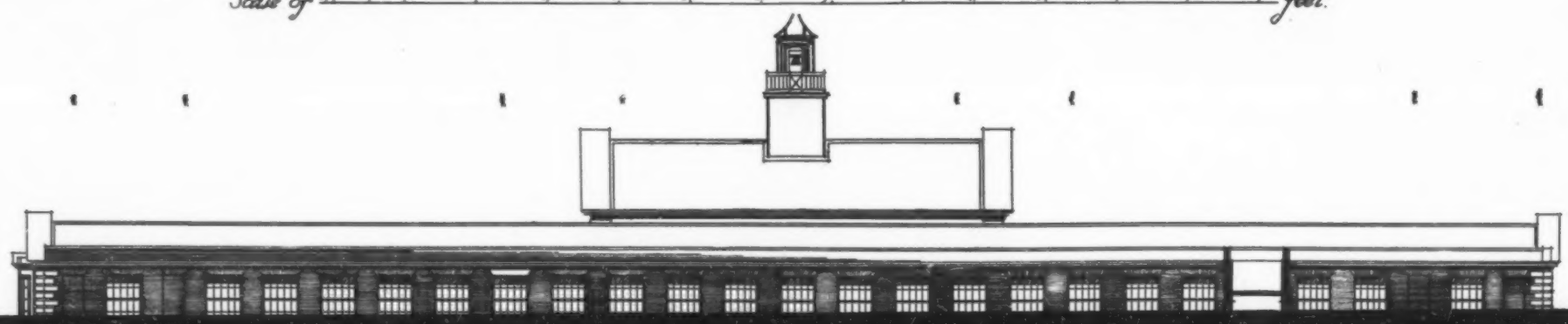


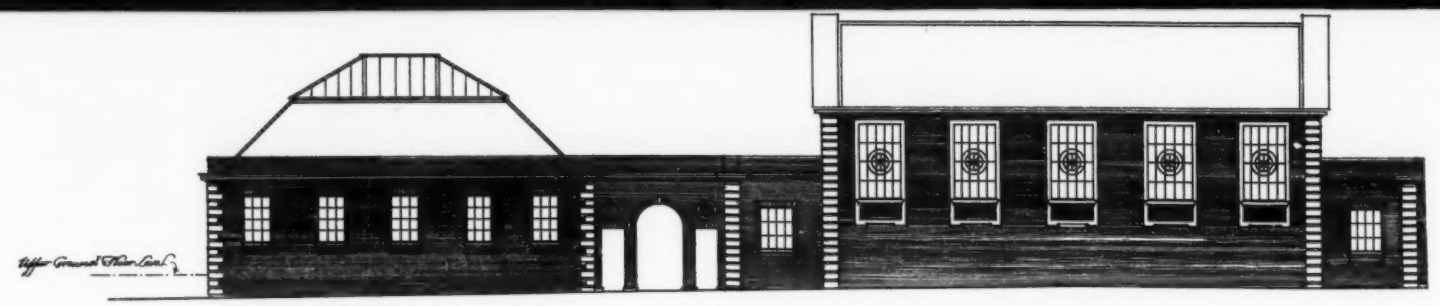
Back Elevation.

The Front Elevation.

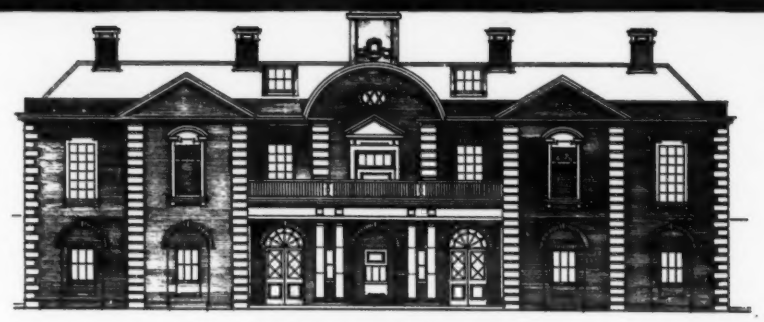
LVTON SCHOOL FOR GIRLS

Scale of 1/8 inch to a foot.





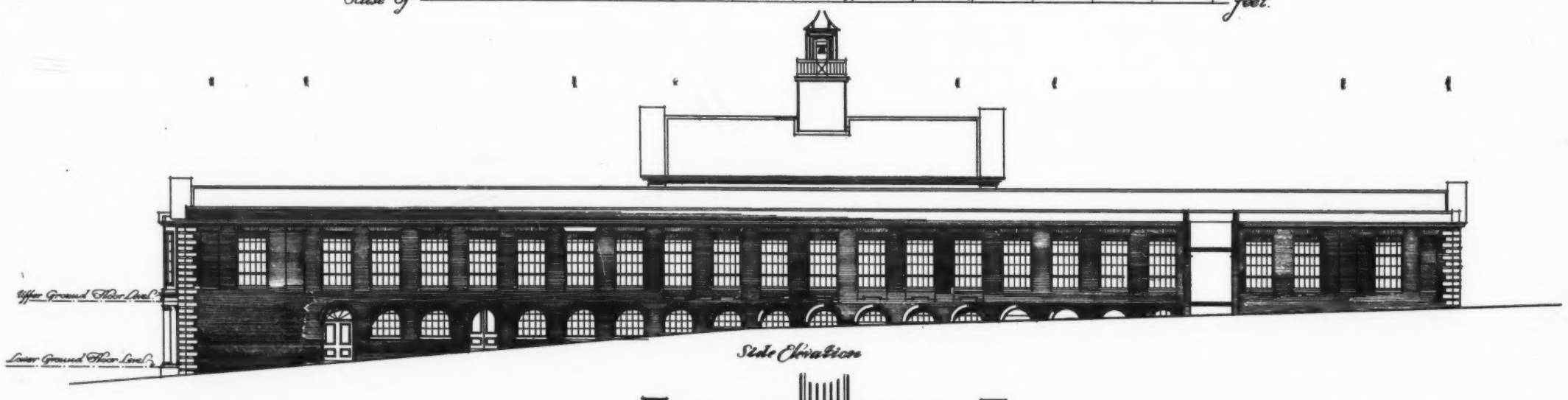
Back Elevation.



The Front Elevation.

LVTON SCHOOL FOR GIRLS

Scale of 10 feet



Side Elevation

Longitudenal Section "BB."

Side Elevation.

LUTON SECONDARY SCHOOL: SCHEMES A AND B.—DESIGNS BY MR. A. W. S. CROSS, F.R.I.B.A.

TECHNICAL INSTITUTE, CARDIFF.—Messrs. Ivor Jones & Percy Thomas, Architects.

Photo: Welsh Pictorial Photographers, Cardiff.

TECHNICAL INSTITUTE, CARDIFF.—Messrs. Ivor Jones & Percy Thomas, Architects.

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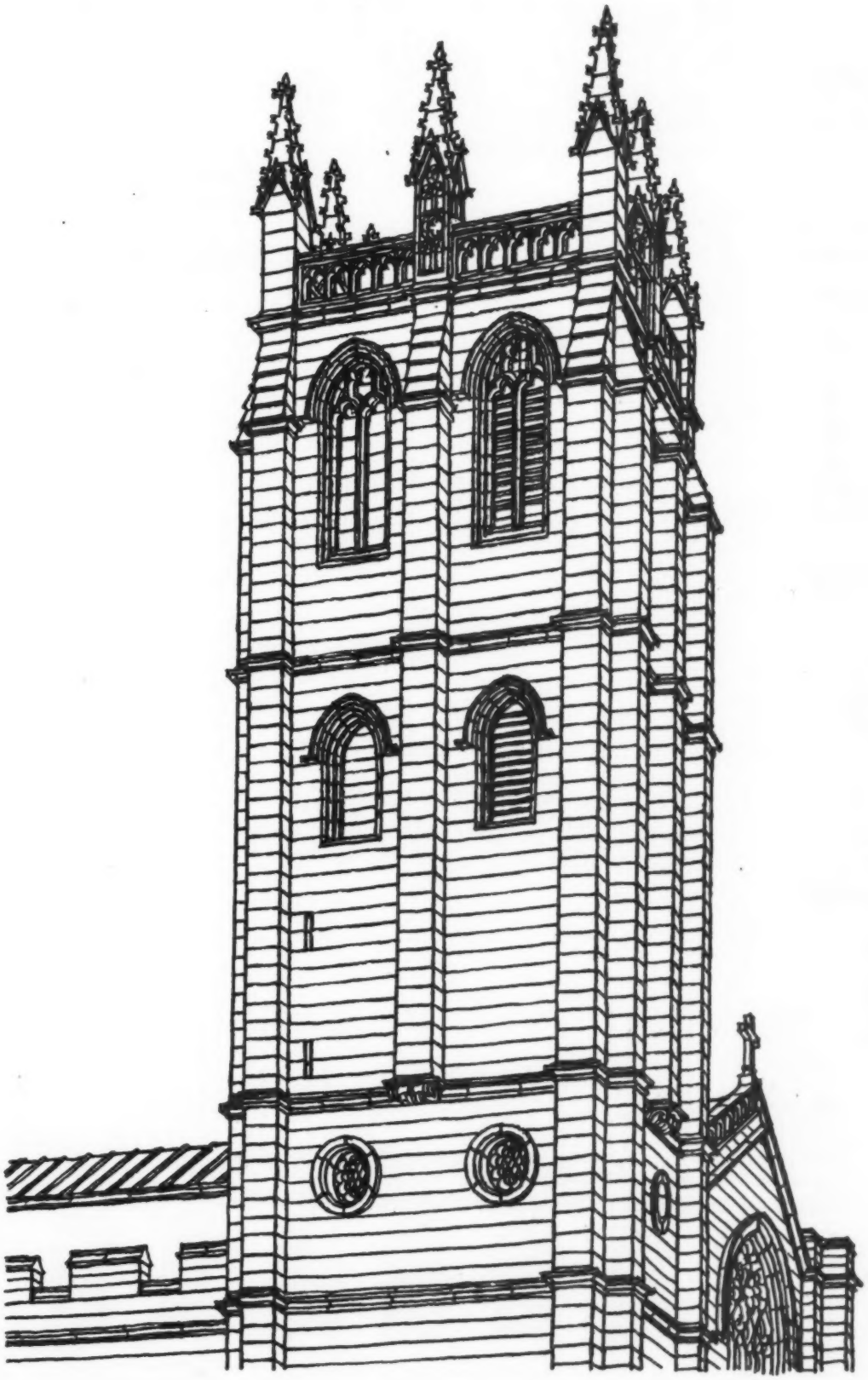
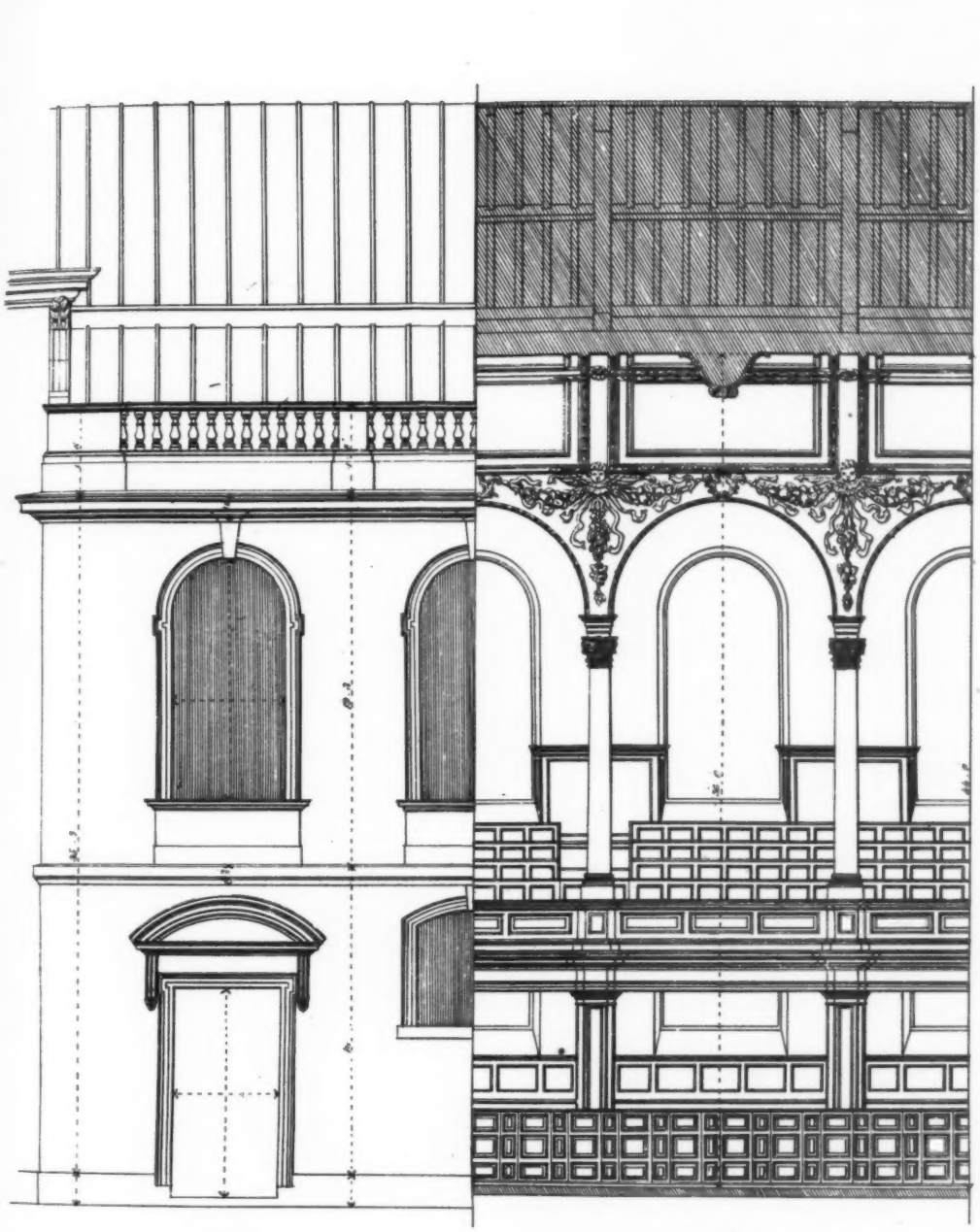
ST ALBAN.
WOOD STREET. E.C.

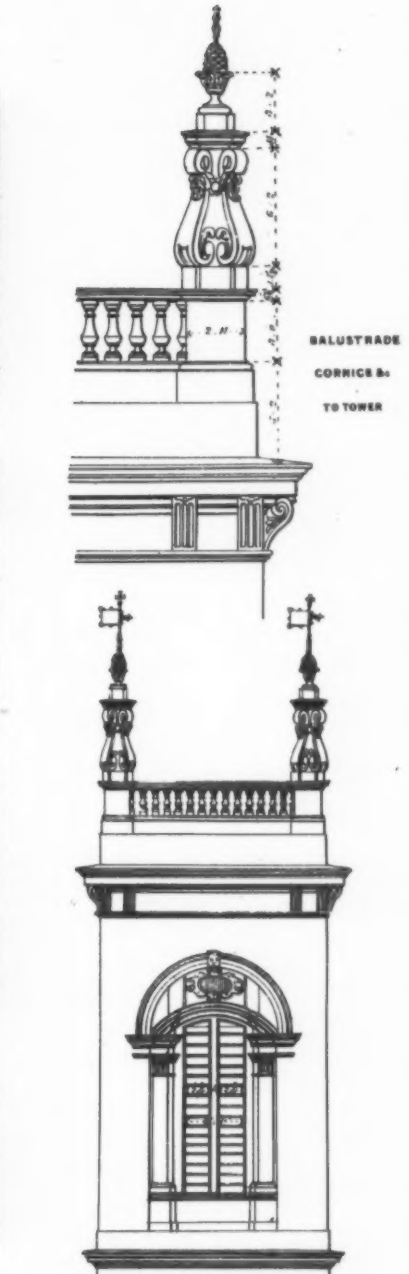


C. Harrold Norton. del:

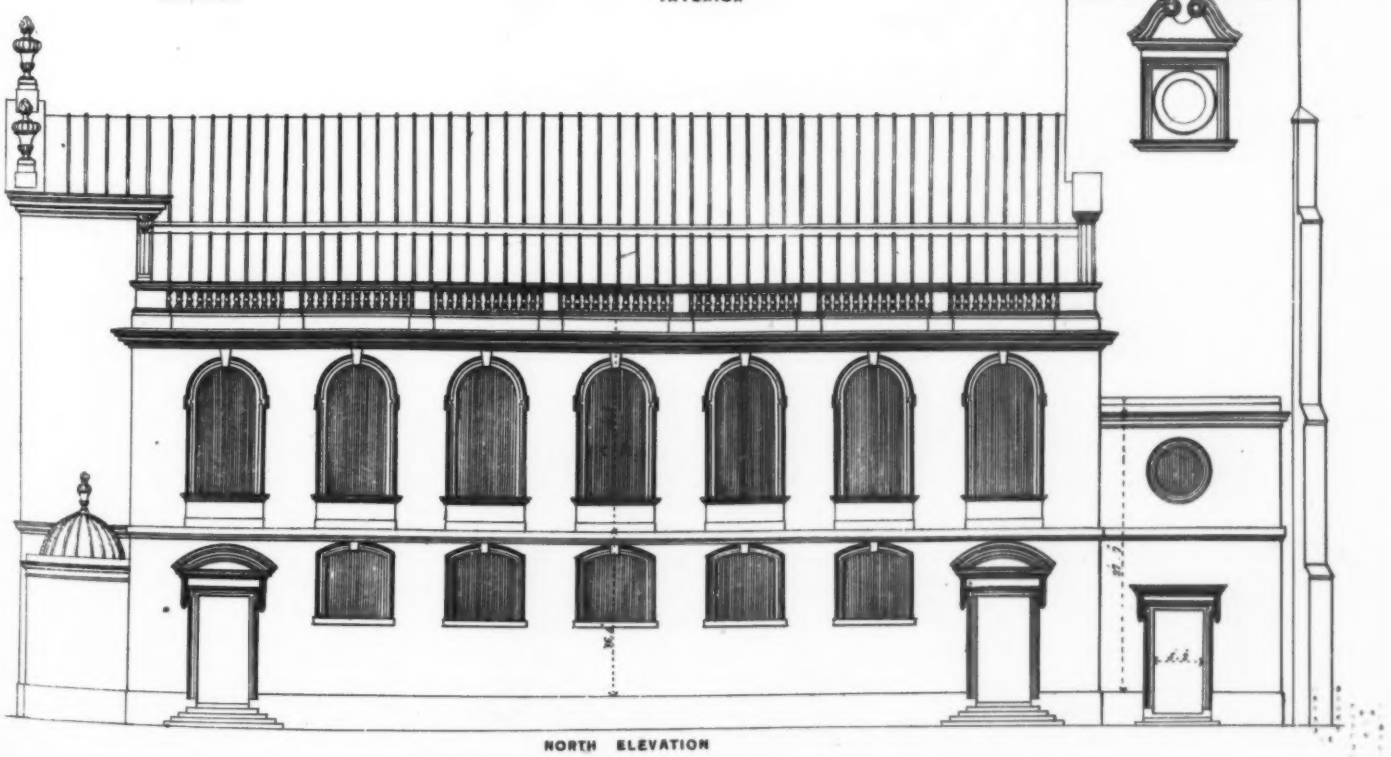
TOWER OF ST. ALBAN, WOOD STREET.—RESTORED BY WREN.



EXTERIOR



INTERIOR



NORTH ELEVATION

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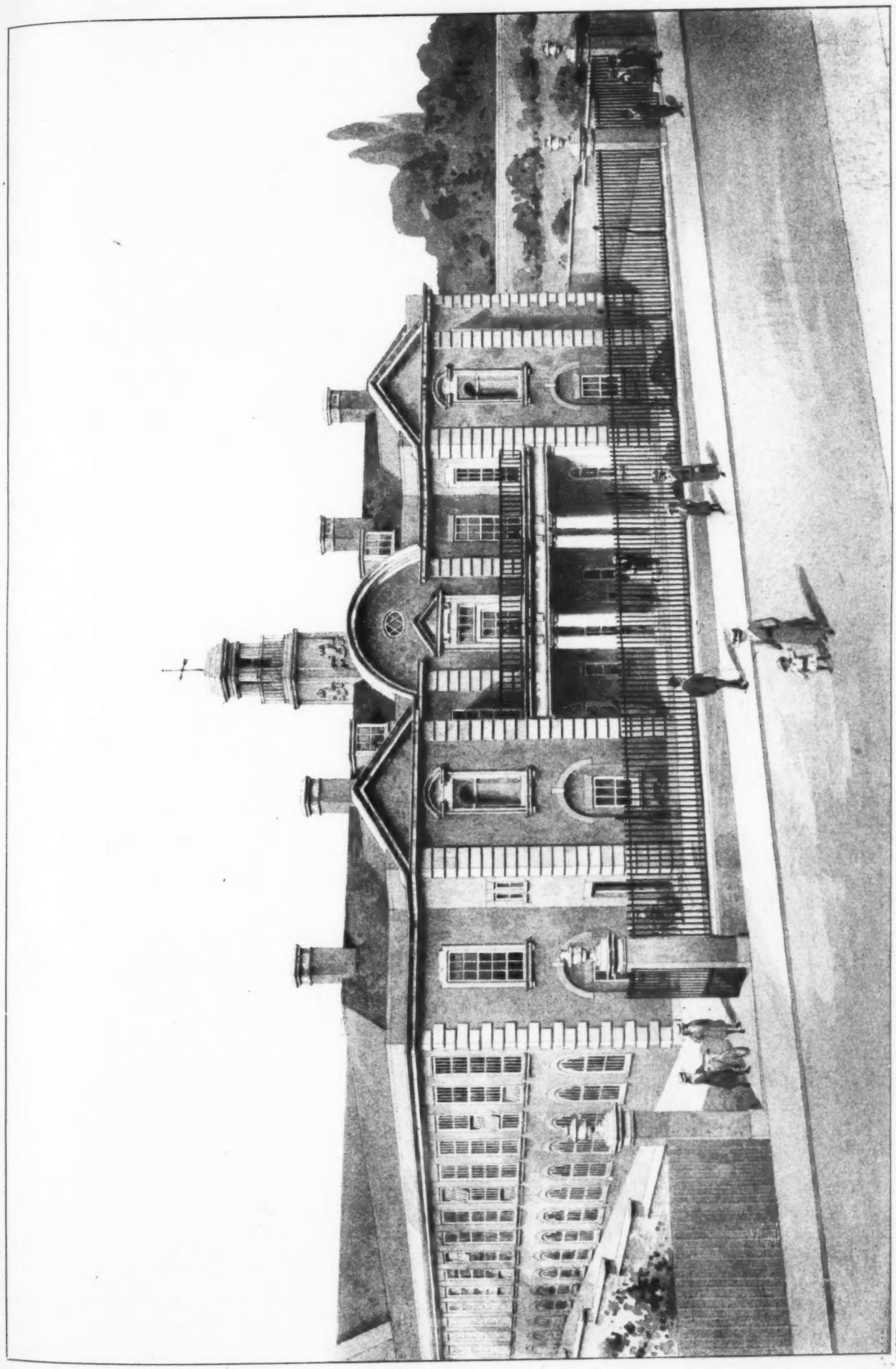

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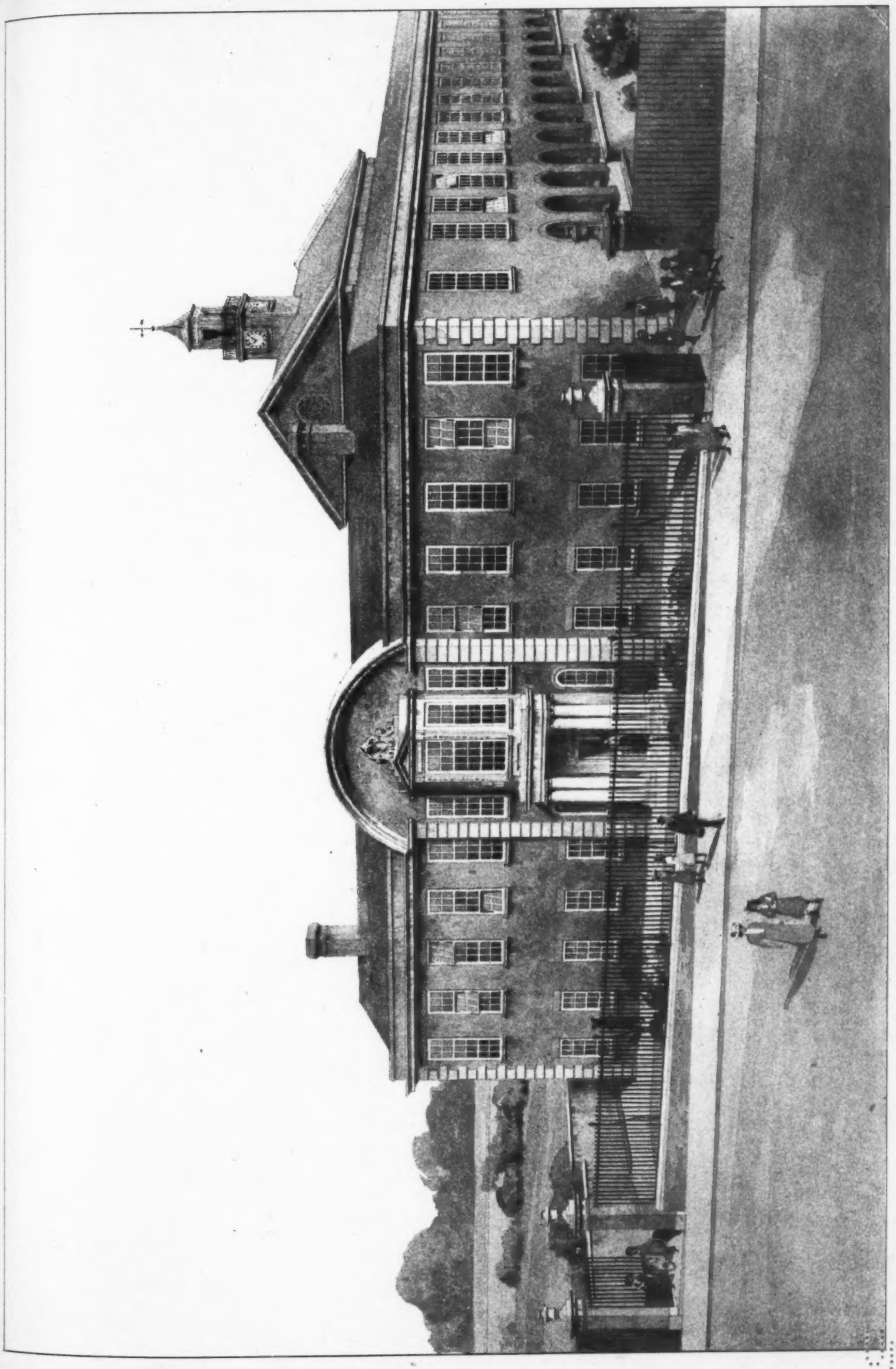

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